THE ENVIRONMENT

HEARINGS

BEFORE THE

COMMITTEE ON WAYS AND MEANS
HOUSE OF REPRESENTATIVES

ONE HUNDRED FIRST CONGRESS

SECOND SESSION

ON

LONG-TERM STRATEGIES FOR PROGRAMS AND ISSUES WITHIN THE JURISDICTION OF THE COMMITTEE

MARCH 6, 7, AND 14, 1990

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LONG-TERM STRATEGIES FOR PROGRAMS AND ISSUES WITHIN THE JURISDICTION OF THE COMMITTEE ON WAYS AND MEANS: THE ENVIRONMENT

TUESDAY MARCH 6, 1990

HOUSE OF REPRESENTATIVES,
COMMITTEE ON WAYS AND MEANS,
Washington, DC.

The committee met, pursuant to notice, at 10:06 a.m., in room 1100, Longworth House Office Building, Hon. Thomas J. Downey presiding.

[The press releases announcing the hearings follow:]

FOR IMMEDIATE RELEASE
THURSDAY, FEBRUARY 1, 1990

PRESS RELEASE #23
COMMITTEE ON WAYS AND MEANS
U.S. HOUSE OF REPRESENTATIVES
1102 LONGWORTH HOUSE OFFICE BUILDING
WASHINGTON, D.C. 20515
TELEPHONE: (202) 225-1721

THE HONORABLE DAN ROSTENKOWSKI (D., ILL.), CHAIRMAN, COMMITTEE ON WAYS AND MEANS, U.S. HOUSE OF REPRESENTATIVES, ANNOUNCES LONG-TERM STRATEGY HEARING ON THE ENVIRONMENT

The Honorable Dan Rostenkowski (D., Ill.), Chairman, Committee on Ways and Means, U.S. House of Representatives, today announced that the Committee will hold a fourth hearing in its series to consider long-term strategies for programs and issues within the jurisdiction of the Committee. This hearing, which will examine environmental issues, will be held on Tuesday, March 6, 1990, and Wednesday, March 7, 1990, in the Committee's main hearing room, 1100 Longworth House Office Building, beginning at 10:00 a.m. each day.

In announcing this hearing, Chairman Rostenkowski stated: "Our previous long-term strategy hearings focused on the national savings rate, national productivity growth, and certain foreign tax and trade issues. These hearings provided important opportunities for Members of the Committee to step back and take a long-term view of critical national issues within the Committee's jurisdiction. The intent for this hearing on the environment is the same. The Committee will explore the manner in which the Federal tax system could be used to improve our environment. Last year, the Committee took two important steps toward improving the environment: first, by imposing an excise tax on ozone-depleting chemicals and, second, by substantially increasing the funding of the Oil Spill Liability Trust Fund. This hearing will provide the Committee with information which it may use to take further steps in the future toward the improvement of the environment."

In particular, the Committee invites testimony on the following subjects:

1. The effect on air pollution and energy conservation of:
    a. an increase in the excise taxes on gasoline and diesel fuel,
    b. modification of employee parking subsidies,
    c. a Federal tax subsidy of van pools and transit passes,
    d. modification of the "gas guzzler" excise tax, and
    e. creation of a Federal tax subsidy for fuel efficient vehicles;
2. ways in which the Federal tax system can be used to counter the effect of ozone on the Nation's agriculture and forests;
3. the effect on the environment of existing Federal tax subsidies of coal and oil production;
4. the effect on the creation of acid rain of a tax on the emission of sulfur dioxide and nitrogen oxide;
5. the effect on water pollution of:
    a. an increase in the tax on inland waterway barge fuel,
    b. a groundwater source pollution tax, and
6. the desirability of the extension beyond September 30, 1990, of the Federal tax credits for solar, wind, and geothermal property;
7. the desirability of the extension beyond December 31, 1990, of the Federal tax credit for the production of alternative fuels;
8. other means by which the Federal tax system can encourage the production of alternative fuels;
9. the desirability of excise taxes on tropical timber imports and certain outdoor recreational equipment; and
10. ways in which the Federal tax system can encourage recycling, including, the denial of deductions for the costs of, and an excise tax upon, the harvesting of virgin materials, for example, old-growth redwoods.

The Committee also invites testimony on other means by which the Federal tax system can be used to improve the environment.

DETAILS FOR SUBMISSION OF REQUESTS TO BE HEARD:

On Tuesday, March 6, 1990, the Committee will receive testimony from the Administration and other invited witnesses only. Individuals and organizations interested in presenting oral testimony before the Committee on Wednesday, March 7, 1990, must submit their requests to be heard by telephone to Harriett Lawler or Diane Kirkland [(202) 225-1721] no later than close of business, Thursday, February, 22, 1990, to be followed by a formal written request to Robert J. Leonard, Chief Counsel, Committee on Ways and Means, U.S. House of Representatives, 1102 Longworth House Office Building, Washington, D.C. 20515. The Committee staff will notify by telephone those scheduled to appear as soon as possible after the filing deadline. Any questions concerning a scheduled appearance should be directed to the Committee [(202) 225-1721].

Persons and organizations having a common position are urged to make every effort to designate one spokesperson to represent them in order for the Committee to hear as many points of view as possible. Time for oral presentations will be strictly limited with the understanding that a more detailed statement may be included in the printed record of the hearing. In addition, witnesses may be grouped as panelists with strict time limitations for each panelist.

In order to assure the most productive use of the limited amount of time available to question hearing witnesses, all witnesses scheduled to appear before the Committee are required to submit 200 copies of their prepared statements to the Committee office, room 1102 Longworth House Office Building, at least 48 hours in advance of their scheduled appearance. Failure to comply with this requirement may result in the witness being denied the opportunity to testify in person.

WRITTEN STATEMENTS IN LIEU OF PERSONAL APPEARANCE:

Persons submitting written statements for the printed record of the hearings should submit at least six (6) copies by the close of business, Friday, March 16, 1990, to Robert J. Leonard, Chief Counsel, Committee on Ways and Means, U.S. House of Representatives, 1102 Longworth House Office Building, Washington, D.C. 20515. If those filing written statements for the printed record of the hearings wish to have their statements distributed to the press and the interested public, they may provide 100 additional copies for this purpose to the Committee office, room 1102 Longworth House Office Building, no later than close of business Monday, March 5, 1990.

SEE FORMATTING REQUIREMENTS BELOW:

COMMITTEE ON WAYS AND MEANS FORMATTING REQUIREMENTS FOR PRINTING OF HEARING STATEMENTS, WRITTEN COMMENTS AND EXHIBITS

Each statement presented for printing to the Committee by a witness, any written statement or exhibit submitted for the printed record or any written comments in response to a request for written comments must conform to the guidelines listed below. Any statement or exhibit not in compliance with these guidelines will **not** be printed, but will be maintained in the Committee files for review and use by the Committee.

1. All statements and any accompanying exhibits for printing must be typed in single space on legal-size paper and may not exceed a total of 10 pages.
2. Copies of whole documents submitted as exhibit material will not be accepted for printing. Instead, exhibit material should be referenced and quoted or paraphrased. All exhibit material not meeting these specifications will be maintained in the Committee files for review and use by the Committee.
3. Statements must contain the name and capacity in which the witness will appear or, for written comments, the name and capacity of the person submitting the statement, as well as any clients or persons, or any organization, for whom the witness appears or for whom the statement is submitted.
4. A supplemental sheet must accompany each statement listing the name, full address, a telephone number where the witness or the designated representative may be reached and a topical outline or summary of the comments and recommendations in the full statement. This supplemental sheet will not be included in the printed record.

The above restrictions and limitations apply only to material being submitted for printing. Statements and exhibits or supplementary material submitted solely for distribution to the Members, the press and public during the course of a public hearing, may be submitted in other forms.

FOR IMMEDIATE RELEASE
TUESDAY, FEBRUARY 27, 1990

PRESS RELEASE #23-REVISED
COMMITTEE ON WAYS AND MEANS
U.S. HOUSE OF REPRESENTATIVES
1102 LONGWORTH HOUSE OFFICE BLDG.
WASHINGTON, D.C. 20515
TELEPHONE: (202) 225-1721

THE HONORABLE DAN ROSTENKOWSKI (D., ILL.), CHAIRMAN, COMMITTEE ON WAYS AND MEANS, U.S. HOUSE OF REPRESENTATIVES, ANNOUNCES AN ADDITIONAL HEARING DAY ON ENVIRONMENTAL ISSUES

The Honorable Dan Rostenkowski (D., Ill.), Chairman of the Committee on Ways and Means, U.S. House of Representatives, today announced that the Committee will hold an additional day to receive testimony from public witnesses, who have already requested to testify, on environmental issues.

The hearing will be held on Wednesday, March 14, 1990, at 10:00 a.m. in the Committee's main hearing room, 1100 Longworth House Office Building.

All details and requirements pertaining to the hearings remain as outlined in the earlier press release on this subject. (See Press Release #23, dated February 1, 1990.) Accordingly, no additional requests to be heard will be entertained. Persons and organizations not scheduled to present oral testimony are encouraged to submit written testimony to be included in the printed record of the hearings.

WRITTEN STATEMENTS IN LIEU OF PERSONAL APPEARANCES:

Any interested person or organization may file written comments for inclusion in the printed record of the hearings. Persons submitting written comments for the printed record should submit at least six (6) copies of their comments by the close of business Monday, March 19, 1990, to Robert J. Leonard, Chief Counsel, Committee on Ways and Means, U.S. House of Representatives, room 1102 Longworth House Office Building, Washington, D.C. 20515. If those filing written statements for the printed record of the hearings wish to have their statements distributed to the press and the interested public at the hearings, they may provide 150 additional copies for this purpose to the Committee office, room 1102 Longworth House Office Building, prior to the start of the public hearings.

FORMATTING REQUIREMENTS:

Each statement presented for printing to the Committee by a witness, any written statement or exhibit submitted for the printed record or any written comments in response to a request for written comments must conform to the guidelines listed below. Any statement or exhibit not in compliance with these guidelines will **not** be printed, but will be maintained in the Committee files for review and use by the Committee.

1. All statements and any accompanying exhibits for printing must be typed in single space on legal-size paper and may not exceed a total of 10 pages.
2. Copies of whole documents submitted as exhibit material will not be accepted for printing. Instead, exhibit material should be referenced and quoted or paraphrased. All exhibit material not meeting these specifications will be maintained in the Committee files for review and use by the Committee.
3. Statements must contain the name and capacity in which the witness will appear or, for written comments, the name and capacity of the person submitting the statement, as well as any clients or persons, or any organization for whom the witness appears or for whom the statement is submitted.
4. A supplemental sheet must accompany each statement listing the name, full address, a telephone number where the witness or the designated representative may be reached and a topical outline or summary of the comments and recommendations in the full statement. This supplemental sheet will not be included in the printed record.

The above restrictions and limitations apply only to material being submitted for printing. Statements and exhibits or supplementary material submitted solely for distribution to the Members, the press and public during the course of a public hearing, may be submitted in other forms.

Mr. DOWNEY. The chairman is temporarily detained and will be here shortly.

Today, we begin the first of 3 days of hearings on ways in which the Federal tax system can be used to improve our Nation's environment. Last year, the Committee on Ways and Means took two important steps toward improving the environment. First by imposing an excise tax on ozone depleting chemicals and, second, by substantially increasing the funding of the Oil Spill Liability Trust Fund.

We are particularly encouraged by the recycling efforts recently introduced by some of the principal CFC manufacturers as a result of the enactment of the tax on ozone depleting chemicals. This year also promises to be an active one for the Congress and for the committee with respect to environmental issues.

President Bush, who has said that he would like to be known as the environmental President, has sponsored substantial changes to the Clean Air Act. Others have been proposed even more far reaching.

Bills now under consideration in both the House and Senate contain numerous provisions that raise revenue, both to pay for the cost of pollution control and to deter future pollution causing activities. Accordingly, I would expect that these issues may soon be before the committee, and several of the witnesses in these hearings will address clean air issues. While certain of the issues discussed in these hearings are undoubtedly more timely than others, the principal purpose for which the committee has called these hearings is not to discuss particular bills or legislative proposals. These hearings are part of a series of hearings which will permit the committee to consider long-term strategies for programs and issues within its jurisdiction. These issues with which we will deal are numerous and complex.

These hearings will be a first step in the committee's indepth consideration of its role in shaping important environmental policies. There can be no doubt that this committee will play a central role in the process of funding the many legislative programs necessary to resolve increasingly serious environmental problems, whether they be acid rain, ozone pollution, global warming, or destruction of wetlands.

Before this process can be completed successfully, we will have to achieve a bipartisan consensus on how to pay for some of those items with enormous costs. In fact, our task will be great, our creativity challenged, and our ability to lead our country ahead tested.

I hope our witnesses in these hearings will provide us with creative ideas that will help us meet these challenges.

We welcome as our first witness our friend and colleague, Congressman Richard Schulze, a member of this committee. Before calling on Mr. Schulze, I first yield to Mr. Archer.

Mr. ARCHER. Thank you, Mr. Chairman. Just very briefly, I am glad we are having these hearings. I look forward to the testimony of the witnesses, and I particularly am delighted to see that our leadoff witness is the respected member from Pennsylvania, a member of our committee, Mr. Schulze.

Mr. DOWNEY. Dick, if you would begin.

STATEMENT OF HON. DICK SCHULZE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF PENNSYLVANIA

Mr. SCHULZE. Thank you, Mr. Downey, Mr. Archer, Mr. Cardin, and Mr. Sundquist. I appreciate the opportunity to address the committee this morning on strategies—I should include Mr. Stark, whom I am pleased to address as well for using the Tax Code to improve the environment.

I commend the chairman for the foresight in holding these hearings.

My primary reason for appearing before you this morning is to describe my legislative proposal pending before the committee, H.R. 3654, the Newspaper Incentive Recycling Conservation Act of 1989.

However, before discussing this proposal, let me touch on several other tax-related environmental issues of concern.

First, in regard to environmental excise taxes. I have been interested for some time in the concept of a national sales tax, or consumption tax, to fund an environmental trust fund for hazardous waste cleanup, water and air pollution control and abatement, and general environmental problems facing our Nation. I would envision the tax closely resembling the previously proposed Superfund Excise Tax, or SET tax, which the House narrowly rejected in the 99th Congress. It would be a broad-based environmental excise tax of perhaps 1 percent where all who generate or use common products in our society, including foreign manufacturers, are taxed, would ensure adequate funding for the multiple environmental problems confronting our Nation. This concept should be explored further in coming years.

A minor issue still of great concern to me is an apparent oversight in the imposition of the ozone depleting chemicals tax. I remain convinced that an exemption for medical sterilant gases, necessary for the best protection against infection, is worthy of strong consideration. Certainly, at the very least, this exemption is meritorious when compared to the exemption under current law included for rigid foam insulation.

Two other environmental tax issues I would like to mention are contributions to land conservation interests and qualified Nuclear Decommissioning Trust Funds. In regard to the latter, I submitted testimony 2 weeks ago in support of H.R. 1317, legislation I have introduced to reduce the tax rate on qualified Nuclear Decommissioning Trust Funds, and to lift onerous investment restrictions which are preventing adequate funding for nuclear power plant decommissioning. My proposal has the endorsement of the Sierra Club, the Edison Electric Institute, and should be viewed as a vital environmental matter for the attention of our committee.

In regard to charitable contributions of qualified conservation interests, I support these provisions, but feel they should be expanded to address the rapid development of our open spaces brought on by the imposition of prohibitive estate taxes on family farms and undeveloped land.

In Chester County, PA, my home county, 16 acres of open space each day is lost to development. That's about 5,800 acres each year. The rolling hills and farmlands which make this area so beautiful

and productive are being devoured due to skyrocketing developmental values.

The burden of estate taxes levied on family farms is so heavy that farmers are forced to sell their land to developers to pay their taxes. Land values for farming are as high as $4,000 an acre. For developmental purposes, however, open farmland can bring as much as $50,000 an acre.

The existing farm valuation election of section 2032(a), allowing a $750,000 cushion on the estate tax levy, is insufficient to cover or protect situations arising in metropolitan areas around our Nation.

I have introduced H.R. 2336, the Family Farmland Preservation Act, to take a first step in eliminating the forced sale of our open farmland to development interests. I urge the committee staff to examine this issue closely. It is one of the urgent environmental issues which we should look at, and that is the preservation of open space. Estate taxes on farmland or open space should be deferred or even forgiven if the land remains undeveloped for significant periods of time or in perpetual trust.

Finally, Mr. Chairman, I would like to call the attention of the committee to my bill to facilitate increased newsprint recycling. The Newspaper Incentive Recycling Conservation Act, H.R. 3654, would provide a 10-percent investment tax credit for expenditures on recycling equipment and machinery. In addition, it would penalize newspapers of over 150,000 average daily circulation which fail to meet minimum recycling targets after 5 years. The proposal is very straightforward, and I am pleased that it has been cosponsored by the chief majority whip, Mr. Bonior, our Republican conference chairman, Mr. Lewis, and our committee colleague, Mrs. Johnson.

Rather than a tax increase on virgin fiber, my proposal uses a carrot and stick approach for those who fail to support sound environmental recycling policy. The carrot, a tax credit, goes to those who are willing to invest in recycling equipment, and a stick, tax penalties, go to those large newspapers unwilling to meet modest newsprint recycling goals.

Mr. Chairman, according to the World Watch Institute, one Sunday edition of the New York Times results in 75,000 cut trees. Most major daily newspapers don't use adequate recycled fiber in their operations. Let's hold out that carrot for them. And if they resist, let's hit them with the stick.

Knowing that newsprint is the largest identifiable item in solid waste landfills, and that the Philadelphia region is undergoing a trash crisis, at the very least, newspapers in regions impacted by this type of crisis should be moving much more rapidly toward recycling. If they are, I have not seen signs of it or have not heard about it, and I would look forward to their cooperation.

And, Mr. Chairman, I thank you for the opportunity to testify, and would be happy to answer any questions.

Mr. DOWNEY. Thank you, Mr. Schulze.

Mr. Archer.

Mr. ARCHER. Mr. Chairman, I don't have any questions, but I do want to compliment our colleague for a very thoughtful presentation. It contains recommendations the committee I think, should look at.

Mr. DOWNEY. Are there other questions for Mr. Schulze?

Mr. Sundquist.

Mr. SUNDQUIST. Thank you, Mr. Chairman.

I want to thank our colleague for his excellent testimony.

How does the paper industry view your bill?

Mr. SCHULZE. Generally, they have not been vocal. The people with whom I have spoken certainly like the incentive approach better than the straight penalty. What we are saying is that we are going to give you an investment tax credit; we are going to give you these tax incentives to encourage you to develop and utilize recycled newsprint.

We all read every day about how the population of America is cooperating in saving and storing and handling separately newspapers and newsprint to the point where we have a glut. So what we have got to do is create an incentive to utilize that product in a recycling manner.

Mr. SUNDQUIST. Well, I think people like incentives, and it's a commonsense approach. I compliment the gentleman for his thoughtful testimony.

Mr. SCHULZE. Thank you.

Mr. DOWNEY. Other questions for our colleague?

[No response.]

Mr. DOWNEY. Thanks, Dick.

Mr. SCHULZE. Thank you, Mr. Chairman.

Mr. DOWNEY. Mr. Stark, are you seeking recognition?

Mr. STARK. Yes, if the Chair will indulge me. I have a statement that I would ask unanimous consent to appear in the record at this time.

Mr. DOWNEY. Without objection, it is so ordered. It will appear in the record at this point.

[The statement of Mr. Stark follows:]

FORTNEY H. (PETE) STARK
9TH DISTRICT, CALIFORNIA

COMMITTEES
WAYS AND MEANS
DISTRICT OF COLUMBIA
SELECT NARCOTICS

CONGRESS OF THE UNITED STATES
HOUSE OF REPRESENTATIVES
WASHINGTON, D.C. 20515

STATEMENT OF CONGRESSMAN PETE STARK
BEFORE THE COMMITTEE ON WAYS AND MEANS
TUESDAY, MARCH 6, 1990
HEARINGS ON LONG-TERM STRATEGY FOR THE ENVIRONMENT

Mr. Chairman:

I am very pleased that you have called these hearings to see how we can use the tax code as part of a long-term strategy to protect the environment. The decade of the 1990s will be a critical turning point as to whether or not we begin addressing clear environmental dangers.

In spite of the rhetoric from the White House, there is virtually no doubt about the enormous, serious problems of global warming, acid rain, mountains of garbage, and smog-choked cities. While we need to continue scientific research into global warming, as President Bush suggests, this should not be an excuse for inaction. As with the depletion of the ozone layer, there is clear international scientific consensus on global warming and acid rain destruction. We must act.

Using the tax code to achieve environmental goals works. Last year, the Congress passed into law a large tax on the production of chlorofluorocarbons which destroy the ozone. The tax was designed to bring alternatives into production and encourage recycling. An article in the Christian Science Monitor last week showed that corporate behavior by the biggest producers, Du Pont and Allied-Signal, is changing. They are actively engaging in recycling which they had never done before. The tax is clearly responsible.

Mr. Chairman, I believe that we can effectly expand on the results of the CFC tax. I have introduced legislation with Mr. Downey which will impose an excise tax on acid rain emissions. The bill is the President's regulatory proposal simplified into an excise tax. This is a clean, free market approach. When you pollute, you pay the IRS. There are no middlemen, no cumbersome pollution allowances, and no new bureaucracy. We can make acid rain pay its societal price. This approach also has the advantage of raising significant amounts of money for the Treasury. Our main goal is not to raise money but to move quickly and effectively to help the environment.

Another important way the tax code can be used to support good environmental policy is by taxing the subsidy received on federal

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water. This would encourage good stewardship of the water and promote water conservation. This is especially important in California as the perennial water battles are about to start again. Also, it will serve to end the disparity between farmers who have access to subsidized water and those who do not.

Old growth redwoods are being chain-sawed to pay off junk bonds every working day. The cutting of old growth redwoods is in essence, tree mining. Old growth redwoods are not a renewable resource in a 100 year time span. Anything that can take a millennium to regenerate should hardly be considered renewable. I have introduced a federal severance equal to 35% of the value of the tree that is cut. This severance tax should change the economics of cutting these old giants and encourage the substitution of quicker growing, more traditional lumber sources. This is an important national issue, one which addresses the preservation of one of California's and America's symbols.

I believe the tax code can be used effectively to encourage recycling. The previously mentioned CFC example amply demonstrates that. I have introduced today a bill to encourage the recycling of paper products by requiring paper manufacturers to use specific amounts of reclaimed or recycled paper material in their production. Manufacturers would pay a per ton tax on paper production that does not meet EPA procurement guidelines.

I am also introducing a bill to gradually raise the Corporate Average Fuel Economy or CAFE standards and the gas guzzler tax. Oil imports and dependence on foreign oil continue to rise, adding to the trade deficit while polluting cities.

Longer term, Mr. Chairman, I believe we need to look at a carbon tax. The only way we can start to bring down the global temperature is to stop the increase in carbon dioxide emissions. A simple environmental tax on the burning of coal, oil, and natural gas could go a long way to help reduce the profligate burning of fossil fuels. Sweden is working on such an approach. Unfortunately, in order to bring about real changes in consumer behavior, the tax would have to bring in at least $20 billion per year. However, much of the economic affect could be offset by the advantages of reducing the deficit. I hope the Administration continues to pursue this critical issue in the international arena.

The issues I have outlined above are only the beginning of what we can begin to acheive. There are many other innovative and creative ideas on how we can protect the environment and our non-renewable resources through the tax code. I look forward to reviewing the ideas that will be put forth in these very much needed hearings.

These hearings bring together two of the most important issues facing us, the environment and the deficit. Hooking these issues together can have a synergistic effect. We can acheive the twin goals of creating a cleaner environment while improving the deficit picture. Mr. Chairman, I look forward to working with the Administration, other Members of the Committee, and interested parties in pursuing these goals.

Mr. DOWNEY. So the Chair will next hear from our Treasury witness.

The Chair is pleased to welcome in his official capacity as Deputy Assistant Secretary for Tax Policy, Michael J. Graetz.

Dr. Graetz, it is good to have you back before the committee, and especially good to have you in your new capacity. Welcome.

STATEMENT OF MICHAEL J. GRAETZ, DEPUTY ASSISTANT SECRETARY FOR TAX POLICY, U.S. DEPARTMENT OF THE TREASURY

Mr. GRAETZ. Thank you, Mr. Chairman.

Mr. Chairman and members of the committee, I am pleased to have this opportunity to present the views of the Department of the Treasury on certain existing and proposed Federal tax provisions which may have direct or indirect environmental effects. The administration is committed to preserving and improving the environment, and we welcome this committee's participation in this endeavor.

The formulation of environmental policy requires balancing environmental concerns and other important national goals, including continued economic growth and prosperity, the promotion of free international trade, and the maintenance of domestic energy sources. While tradeoffs are often required, these goals are not necessarily inconsistent. For example, economic growth provides the opportunity for firms to invest in new facilities that are cleaner and more efficient.

The administration seeks to provide an appropriate balance of these various goals. The administration supports clean air legislation that relies principally on market incentives that allow businesses and individuals to implement least costly solutions for achieving environmental goals. In addition, the President's budget provides for more than $2 billion in new spending to protect the environment.

This program is intended to address environmental concerns without the need for new or increased taxes.

The focus of my testimony will be on the reasons why the administration believes that a comprehensive environmental protection strategy that incorporates market-based incentives, including user fees where appropriate, is preferable to modifications of the Tax Code.

Since I have covered each of the many specific items listed by the committee in the hearing announcement in my written statement, I shall limit my oral remarks to some of the more important issues.

Let me begin with strategies for combating acid rain. There should be no doubt that creativity will be required in developing solutions to the environmental challenges of the 1990's and the 21st century. The creation of flexible market incentives is the cornerstone of the administration strategy for preserving and improving the environment. By harnessing market forces, flexible incentives ensure that businesses and individuals take into account the environmental consequences of their activities without dictation through Government regulation of the specific technology that must be used. Instead, market forces are relied upon to find the least costly ways of meeting environmental goals.

The environmental ideals and goals of the administration are perhaps best exemplified by the acid rain initiatives of the administration's Clean Air Program. Acid rain is thought to be derived from emissions of sulfur dioxide and nitrogen oxide. Proposed amendments of the Clean Air Act would reduce annual emissions of sulfur dioxide by 10 million tons, or to about one-half of their 1980 baseline level by the year 2000. The amendments also provide for a significant reduction in nitrogen oxide emissions.

To meet these objectives, the proposed amendments rely heavily on flexible market mechanisms by instituting a system of transferable emission allowances for sulfur dioxide. This system limits the total emissions that electric utilities can generate by specifying limited rights to emit sulfur dioxide for each source firm. Firms may use their allowances or sell them to other firms. In the economy as a whole, pollution will be reduced through the adoption of cleaner technologies and production processes, and through shifts away from the production of environmentally costly goods and services.

The transferability of emission allowances will ensure that this occurs in the most cost-effective manner. For example, firms that can adopt low-cost pollution control technology could sell their excess emission allowances to those that can use only high cost methods of pollution control.

Such a mechanism provides incentives for private businesses acting in their self-interest to achieve a given reduction in emissions at the lowest possible cost.

Some estimates suggest that the use of these tradable emission allowances could result in about a 20-percent cost savings, or billions of dollars annually, compared to the cost of the same reduction in emissions achieved by traditional regulatory approaches.

This system also encourages conservation by providing the same incentives to energy conservation programs as to other emission reduction strategies. The proposed emission allowances provide direct control over the amount of emissions by limiting the number of permits. Designing a uniform emissions excise tax that would produce exactly the desired emissions level would be very difficult because the tax provides only indirect control through the tax rate. If the rate of tax were set too low, the level of emissions could exceed the targeted amount.

The additional use of emission taxes does not appear either necessary or desirable at this time.

The administration's Clean Air Program contains a number of initiatives for combating the problem of urban air pollution. In many instances, these initiatives are targeted to urban areas where air pollution is most severe. This program would bring most urban areas into compliance with EPA's ozone standards by the year 2000.

The proposed measures to address this problem include tighter tailpipe emission standards for automobiles and light trucks, and reductions in fuel volatility to reduce refueling emissions. This program offers the advantages of market-based incentives by allowing auto makers and refiners some flexibility in meeting performance standards.

Flexible approaches and programs that take differences in local and regional conditions into account generally are preferable to national excise taxes as an approach to these environmental concerns. They can be better targeted to address environmental concerns without imposing inappropriate costs on individuals and businesses. We, therefore, are not recommending changes in the excise taxes on gasoline or diesel fuel.

The administration's Clean Air Program is designed to attain specific air pollution reduction goals without increased Federal motor fuel excise taxes. We believe this approach is preferable because it is targeted at areas with the most severe air pollution problems and avoids imposing costs on those who receive little or no benefit. Nor do we recommend any new Federal tax subsidies for fuel efficient vehicles or modification of the gas guzzler excise tax.

We believe that a tax subsidy for fuel efficient vehicles is not warranted at this time and would have unacceptable budgetary impact. We also believe that the locally targeted clean air proposals the administration supports are preferable to an increased or expanded Federal excise tax that would impose additional costs in areas that receive little or no benefit.

Finally, although we recognize that certain employer-provided fringe benefits may encourage the use of fuel efficient mass transit, while others, such as employer-provided parking discourages such use, we are not recommending changes in current law.

As I mentioned, the administration's clean air program calls for an alternative fuels program that would encourage development and use of alternative clean fuels and the vehicles that burn them.

In addition, current law provides various tax incentives for alcohol fuel blends. These incentives are scheduled to expire in 1992 and 1993. The administration will review the effectiveness of these provisions prior to their expiration. We, therefore, recommend no change in current law at this time.

Let me next turn to reforestation. The President's 1991 budget proposes $175 million for the first year of a multiyear reforestation initiative. The two objectives of this program are to plant a billion trees a year on private land across the United States and to start a community-based program to plant another 30 million trees in communities across the Nation.

Trees remove carbon from the air and can help reduce atmospheric carbon dioxide. It has been estimated, for example, that an additional 1 billion trees could absorb 13 million tons of carbon dioxide per year.

The budget also contains over $1 billion for the Global Change Research Program which should help to improve the state of scientific knowledge in this area. Some have suggested Federal excise taxes on specified timber harvesting activities or on tropical timber imports.

In contrast to broadly directed initiatives, such as the reforestation effort, excise taxes on timber harvesting or tropical timber imports are not an appropriate means to address environmental concerns.

The last two items I would like to discuss are not covered by broad administration initiatives. The first of these is the suggestion

for a Federal excise tax on ground water source pollution. The ground water source pollution problem is best addressed by local Government entities that have detailed knowledge of local sources of pollution and local geologic conditions. Ground water pollution has many sources that vary by location.

The relative responsibility for a contamination problem from a particular source is often difficult to determine. Pollutants move at varying speeds and in varying directions depending on geological conditions. These technical and financial considerations make development of an equitable ground water source pollution tax highly problematic. Moreover, a fair tax would require prohibitively high administrative and compliance costs. We therefore do not support imposing a ground water source pollution tax at this time.

Finally, let me turn to ways in which the Federal tax system can encourage recycling, including a tax on virgin materials.

The Federal Tax Code does not provide any subsidy for recycling activity. We do not believe that a tax subsidy to encourage recycling is an appropriate use of limited budgetary resources. Any such subsidy would apply uniformly to all areas whereas the benefits of recycling depend upon the cost of disposal or of recycling waste material which tend to vary by location and by types of material.

An alternative approach would be to tax virgin materials or products that use virgin materials. The administration is committed to reducing solid waste through source reduction and recycling. We are studying the use of a raw materials tax to determine whether it would usefully contribute to achieving this goal.

Depending upon the specific material in question, even a small incremental change in costs for raw materials due to such a tax could tilt the market in favor of a greater use of secondary materials. We are concerned, however, about the issues surrounding administration of such a tax, including definitions, point of application, and enforceability.

This concludes my prepared remarks, Mr. Chairman. I'll be pleased to answer any questions the committee might have.

[The statement of Mr. Graetz follows:]

For Release Upon Delivery
Expected at 10:00 a.m.
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STATEMENT OF
MICHAEL J. GRAETZ
DEPUTY ASSISTANT SECRETARY (TAX POLICY)
DEPARTMENT OF THE TREASURY
BEFORE THE
COMMITTEE ON WAYS AND MEANS
UNITED STATES HOUSE OF REPRESENTATIVES

Mr. Chairman and Members of the Committee:

I am pleased to have this opportunity to present the views of the Department of the Treasury on certain existing and proposed Federal tax provisions which may have direct or indirect environmental effects. The Administration is committed to preserving and improving the environment and we welcome this Committee's participation in this endeavor.

The formulation of environmental policy requires balancing environmental concerns and other important national goals, including continued economic growth and prosperity, the promotion of free international trade, and the maintenance of domestic energy sources. While tradeoffs often are required, these goals are not necessarily inconsistent. For example, economic growth provides the opportunity for firms to invest in new facilities that are cleaner and more efficient.

The Administration seeks to provide an appropriate balance of these various goals. The Administration supports clean-air legislation that relies principally on market incentives that allow businesses and individuals to implement least costly solutions for achieving environmental goals. In addition, the President's budget provides for more than $2 billion in new spending to protect the environment, including $82 million for implementing proposed changes to the Clean Air Act, $175 million for reforestation, and $375 million for research regarding global change. This program is intended to address environmental concerns without the need for new or increased taxes.

The focus of my testimony will be on the reasons why the Administration believes a comprehensive environmental protection strategy that incorporates market-based incentives, including user fees where appropriate, is preferable to modifications of the tax code. I will address the specific items listed by the Committee in the hearing announcement in the context of the Administration's programs and proposals.

STRATEGIES FOR COMBATING ACID RAIN

Administration Initiatives

There should be no doubt that creativity will be required in developing solutions to the environmental challenges of the 1990s and the 21st century. The creation of flexible market incentives is the cornerstone of the Administration's strategy for preserving and improving the environment. By harnessing market forces, flexible incentives ensure that businesses and individuals take into account the environmental consequences of their activities without dictating through government regulation the specific technology that must be used. Instead market forces are relied upon to find the least costly ways for meeting environmental goals.

The environmental ideals and goals of the Administration are perhaps best exemplified by the acid rain initiatives in the Administration's clean-air program. Acid rain is thought to be derived from emissions of sulfur dioxide and nitrogen oxides. Proposed amendments of the Clean Air Act would reduce annual emissions of sulfur dioxide by 10 million tons -- or to about one-half their 1980 baseline level -- by the year 2000, with a cap placed on emissions in subsequent years. The amendments also provide for a significant reduction in nitrogen oxides emissions.

To meet these objectives, the proposed amendments rely heavily on flexible market mechanisms by instituting a system of transferable emission allowances for sulfur dioxide. This system limits the total emissions that electric utilities can generate by specifying limited rights to emit sulfur dioxide for each source firm. Firms may use their allowances or sell them to other firms. In the economy as a whole, pollution will be reduced through the adoption of cleaner technologies and production processes and through shifts away from the production of environmentally costly goods and services.

The transferability of emissions allowances will ensure that this occurs in the most cost-effective manner by permitting firms that can reduce pollution cheaply to sell their allowances to firms for which pollution reduction would be more costly. For example, firms that can adopt low-cost pollution control technology could sell their excess emissions allowances to firms that can use only high-cost methods of pollution control. After such trades, the firms that most highly value the right to emit sulfur dioxide (because their costs of reducing sulfur dioxide emissions are highest) would be most likely to hold the allowances. Such a mechanism provides incentives for private businesses, acting in their self-interest, to achieve a given reduction in emissions at the lowest possible cost. Some estimates suggest that the use of these tradable emissions allowances could result in about a 20 percent cost savings -- or billions of dollars annually -- compared to the costs of the same reduction in emissions achieved by traditional regulatory approaches.

This system also encourages conservation by providing the same incentives to energy conservation programs as to other emission-reduction strategies. Tradable emissions allowances, along with a ceiling on future emissions, also preserve the incentive for firms to adopt or develop cleaner technologies and production processes.

Tax on the Emission of Sulfur Dioxide and Nitrogen Oxide

Current Law. There are no taxes on sulfur dioxide or nitrogen oxide emissions under current law.

Administration's Position. The acid rain initiative proposed as amendments to the Clean Air Act will achieve the desired emissions reductions at the lowest cost. The proposed emissions allowances provide direct control over the total amount of emissions by limiting the number of permits. Designing a uniform emissions excise tax that would produce exactly the desired emissions level would be very difficult because the tax provides only indirect control through the tax rate. If the rate of tax were set too low, the level of emissions would exceed the targeted amount. The additional use of emissions taxes does not appear either necessary or desirable at this time.

STRATEGIES FOR REDUCING SMOG

Administration Initiatives

The Administration's clean-air program contains a number of initiatives for combating the problem of urban air pollution. In many instances, these initiatives are targeted to urban areas

where air pollution -- carbon monoxide, atmospheric ozone and particulate matter in the atmosphere -- is most severe. This program would bring most urban areas into compliance with EPA's ozone standards by the year 2000.

The proposed measures to address this problem include tighter tailpipe emission standards for automobiles and light trucks and reductions in fuel volatility to reduce refueling emissions. Examples of targeting are the installation of special nozzles on gas pumps to trap refueling emissions in certain areas and the proposed alternative fuels program, which would require the use of clean fuels in the nation's most polluted cities.

The program offers the advantages of market-based incentives by allowing automakers and refiners some flexibility in meeting performance standards. Flexible approaches and programs that take differences in local and regional conditions into account generally are preferable to national excise taxes as an approach to these environmental concerns. They can be better targeted to address environmental concerns without imposing inappropriate costs on individuals and businesses.

A. Proposed Increase in the Excise Taxes on Gasoline and Diesel Fuel

Current Law. The Internal Revenue Code imposes several different fuel excise taxes to support the Highway Trust Fund. The taxes include the 9 cents per gallon gasoline tax (imposed by section 4081), the 15 cents per gallon diesel tax (imposed by sections 4041(a)(1) and 4091), and the 9 cents per gallon tax on certain other motor fuels (imposed by section 4041(a)(2)). In addition, current law provides partial exemptions from these taxes for gasohol and certain other alcohol fuel blends. These exemptions will be described later in my testimony. The taxes and the related exemptions are scheduled to expire on September 30, 1993.

An additional tax of 0.1 cent per gallon is imposed to support the Leaking Underground Storage Tank Trust Fund. This tax is scheduled to expire when the trust fund balance reaches $500 million, probably in August of this year.

In addition to these Federal excise taxes, there are a number of state taxes on fuels. The rate of tax varies widely from state to state; the lowest rate is 7.5 cents per gallon and the highest is 22.3 cents per gallon.

Administration's Position. The Administration recognizes the role that these taxes currently play in promoting environmental goals. The existing excise taxes on gasoline and diesel fuel serve to match better the price of fuel with the true cost that its use imposes on society. We do not believe, however, that increases in the gasoline and diesel excise taxes to further reduce air pollution are either needed or desirable. The Administration's clean-air program is designed to attain specific air pollution reduction goals without increased Federal motor fuel excise taxes. We believe this approach is preferable because it is targeted at areas with the most severe air pollution problems and avoids imposing costs on those who receive little or no benefit.

B. Proposed Creation of a Federal Tax Subsidy for Fuel Efficient Vehicles and Modification of the "Gas Guzzler" Excise Tax

Current Law. There is currently no Federal tax subsidy for fuel-efficient vehicles, but a Federal "gas guzzler" excise tax is imposed on certain models of automobiles. The "gas guzzler" tax is imposed on a model of automobile if the fuel economy of the model is less than 22.5 miles per gallon. The tax ranges from $500 per automobile for models with a fuel economy of at least 21.5 miles per gallon to $3,850 per automobile for models with a fuel economy of less than 12.5 miles per gallon.

Administration's Position. The Administration's clean-air program would reduce air pollution in a flexible manner and target local needs. We recognize that a tax subsidy for fuel-efficient vehicles would reduce fuel consumption and that an increased or expanded "gas guzzler" tax would have a similar effect by subjecting fuel-inefficient vehicles to an excise tax not imposed on other vehicles. We believe, however, that a tax subsidy for fuel-efficient vehicles is not warranted at this time and would have an unacceptable budgetary impact. We also believe that the locally targeted proposals the Administration supports are preferable to an increased or expanded Federal excise tax, which would impose additional costs in areas that receive little or no benefit.

C. Proposed Modification of Employee Parking Subsidies and Federal Tax Subsidy of Van Pools and Transit Passes

Current Law. Section 132 of the Code provides an exclusion from gross income for certain employer-provided fringe benefits. Among the fringe benefits excluded from gross income under section 132 are "working condition fringes" and "de minimis fringes." Working condition fringes are defined as any property or services provided to an employee to the extent that, if the employee had paid for the property or services himself, the payment would have been deductible under section 162 (dealing with ordinary and necessary business expenses) or section 167 (dealing with depreciation). Although parking expenses are a personal expense that generally would not be deductible under sections 162 or 167 if an employee paid them himself, a special rule in section 132 deems working condition fringes to include parking provided to an employee on or near the business premises of his employer.

De minimis fringes are generally defined as any employer-provided property or service whose value is so small as to make accounting for it unreasonable or administratively impractical. Pursuant to the legislative history of section 132, the regulations under that section permit an employee to treat as a de minimis fringe up to $15 per month of employer-provided tokens, vouchers, or reimbursements used by the employee to cover the costs of commuting by public transit, regardless of whether it would be unreasonable or administratively impractical to account for the benefit. This special rule applies as long as the value of the tokens and vouchers, plus the amount of the reimbursements, does not exceed $15 per month to the employee; if they do exceed that amount, employees must include their full value in income.

Regulations under section 61 of the Code limit the amount included in an employee's gross income with respect to certain commuting use of an employer-provided vehicle to $1.50 per one-way commute, regardless of the actual value of such use.

Prior law had excluded from gross income certain employer-provided transportation between an employee's residence and place of work. In order to qualify for this exclusion, the transportation was required to be provided in a "commuter highway vehicle" (as defined in section 46(c)(6)(B) of the Code), under a nondiscriminatory plan of the employer, and in addition to any other compensation otherwise payable to an employee. This exclusion expired for taxable years beginning after December 31, 1985.

Administration's Position. The current treatment of employer-provided parking and mass transit fringes is part of the overall resolution of fringe benefit tax questions enacted by Congress in 1984. In 1984 Congress carefully balanced two often conflicting objectives: the need for clear and administrable rules with the need to limit the erosion of the income and Social Security tax bases due to the increased importance of non-cash fringes. Treasury recognizes that the current, favorable tax treatment of employer-provided parking and de minimis transit

passes is not fully consistent with the general rules limiting tax-exempt fringes. However, change in this area would come either at the price of serious administrative difficulty if parking were made taxable, or significant budgetary cost if the transit pass and vanpooling exemptions were expanded. We do not believe this kind of change is warranted on tax policy grounds at this time.

We believe that the desirability of additional incentives for employer-provided commuting benefits deserves further study, particularly as to the efficiency and fairness of providing such incentives through the tax system and solely in connection with employer-sponsored programs.

D. Proposed Use of the Federal Tax System to Counter the Effect of Ozone on the Nation's Agriculture and Forests

Current Law. There is currently no Federal tax provision to counter explicitly the effect of ozone on the Nation's agriculture and forests.

Administration's Position. Environmental policies can address the problem of ozone pollution most effectively by reducing pollution at the source, rather than compensating those who incur damages for the unfortunate results. By requiring reductions in emissions of ozone-producing pollutants sufficient to attain EPA's health-based ozone standards, the Administration's clean-air program will also reduce ozone-related damage to agriculture and forests.

E. Means by Which the Federal Tax System Can Encourage the Production of Alternative Fuels

Current Law. The Internal Revenue Code provides two types of incentives for the use of alternative fuels containing alcohol. First, there are a number of partial exemptions from the fuel excise taxes described earlier. Sections 4041(k)(1), 4081(c), and 4091(c) provide a partial exemption for fuels used in alcohol fuel blends that contain at least 10 percent alcohol produced from renewable sources. In general, the tax paid on these alcohol fuel blends is 6 cents per gallon less than the tax paid on the unblended fuel. Because these blended fuels are generally 10 percent alcohol, the reduction in the excise tax is equivalent to a subsidy of 60 cents per gallon of alcohol used in the blend. In addition, section 4041(b)(2) provides a 6 cent per gallon reduction in the excise tax rate for motor fuels that contain at least 85 percent alcohol produced from a substance other than petroleum or natural gas.

The second type of incentive for the use of alcohol in fuels is an income tax credit. Section 40 provides a credit of 60 cents per gallon for alcohol that is produced from a renewable source and is used as a motor fuel or in an alcohol fuel blend. The credit is reduced or eliminated if alcohol is used in a fuel that qualifies for a partial excise tax exemption. Any reduction in the excise tax on account of the partial exemption results in a dollar-for-dollar reduction in the amount of the credit.

Administration's Position. As described above, the Administration's clean-air program calls for an alternative fuels program that would encourage development and use of alternative clean fuels and the vehicles that burn them. The motor fuel excise taxes and exemptions are scheduled under current law to expire in 1993, and the tax credit under section 40 is scheduled to expire in 1992. The Administration will review the effectiveness of these provisions prior to their expiration. We therefore recommend no change in current law at this time.

ENERGY SECURITY

Administration Initiatives

Energy security is enhanced both by stockpiling oil and by increasing domestic oil and gas reserves. The level of proven domestic reserves is closely related to the level of domestic exploratory drilling, which has fallen significantly in recent years. A simultaneous increase in development drilling has resulted in a substantial decline in existing domestic oil and gas reserves. Special tax incentives are appropriate at this time to encourage higher levels of exploratory drilling and to maintain production from existing wells, which will ultimately lead to increased domestic reserves.

The President's budget includes four incentives that would encourage exploration for new oil and gas fields and maintain production from old fields. Two of these proposals would provide temporary tax credits for exploratory drilling and investment in tertiary enhanced recovery projects. The other two proposals would encourage continued production from marginal properties.

A. The Effect on the Environment of Existing Federal Tax Subsidies of Coal and Oil Production

Current Law. Current law provides a number of incentives for the exploration, development, and production of coal, oil, and natural gas. The incentives for coal are also allowed, to a varying degree, to all hard minerals. Taxpayers with an interest in a coal mine may claim percentage depletion at a rate of 10 percent. Expenses for exploration and development of a domestic mineral deposit are allowed a specific deduction and are not subject to the uniform capitalization rules. Such costs may be expensed currently, but are subject to recapture upon production of the mineral or disposition of the property. (Corporations are allowed to expense only 70 percent of the exploration and development costs; the other 30 percent must be amortized over 60 months.) Royalties are normally treated as ordinary income; however, capital gain treatment may be elected for income from sales of coal (as well as timber and iron ore) that would otherwise be treated as royalty income. A current deduction is allowed for estimated future mining cleanup and reclamation expenses.

Current law provides a number of incentives for exploration and production of oil and gas. Intangible drilling costs (IDCs) are allowed a specific deduction and are not subject to the uniform capitalization rules. (An integrated oil company may expense only 70 percent of its IDCs; the other 30 percent must be amortized over 60 months.) A working interest in an oil or gas property is not subject to the material participation requirements under the passive loss rules. A limited amount of production by independent producers and royalty owners is eligible for percentage depletion at a rate of 15 percent. The Code also provides a deduction for tertiary injectants used in an enhanced recovery project.

Administration's Position. The incentives proposed in the budget are needed to enhance the Nation's energy security. The substantial energy security benefits of these proposals dominate any relatively minor impact of such provisions on the environment.

REFORESTATION

Administration's Initiatives

The President's 1991 budget proposes $175 million for the first year of a multiyear reforestation initiative. The two objectives of this program are to plant a billion trees a year on

private land across the United States and to start a community-based program to plant another 30 million trees in communities across the nation. Trees remove carbon from the air, and can help reduce atmospheric carbon dioxide. It has been estimated, for instance, that an additional one billion trees could absorb 13 million tons of carbon dioxide per year and thus within 20 years could act as a "sink" for up to 5 percent of annual carbon dioxide emissions. The budget also contains over $1 billion for the Global Change Research Program which should help to improve the state of scientific knowledge in this area.

A. Excise Tax on Specified Timber Harvesting, Such as Old Growth Redwoods

Current Law. There is currently no Federal excise tax on timber harvesting. Under current law, timber growing receives certain favorable tax treatment. Up to $10,000 per year of the costs of planting or replanting may (subject to the taxpayer's election) be amortized ratably over 84 months, and a 10 percent tax credit claimed for these same costs. Timber growing is also exempt from the uniform cost capitalization rules. A taxpayer may treat as capital gain certain income from the sale of timber that would otherwise be treated as ordinary income.

Administration's Position. Some have suggested Federal excise taxes on specified timber harvesting activities, such as harvesting of old growth redwoods. We do not believe that it is appropriate to use the Federal tax system for such an essentially regulatory purpose.

B. Excise Taxes on Tropical Timber Imports

Current Law. There are currently no excise taxes on tropical timber imports.

Administration's Position. In contrast to broadly directed initiatives, such as the reforestation effort, excise taxes on tropical timber imports are not an appropriate means to address environmental concerns. The domestic reforestation initiative recognizes the value of trees, both as protection against potential global climate change and as a source of improved wildlife habitat and water quality, and increased outdoor recreation opportunities. In contrast, raising the price of tropical timber imports through the imposition of excise taxes would not achieve similar economic or environmental goals, and at the same time would inhibit free trade. In addition, to the extent that such timber is simply redirected to other countries, such a tax would not serve well in protecting against the destruction of tropical forests. Finally, serious administrative and enforcement problems are raised by such a proposal. To take but one example, it may well be difficult to know or collect tax on the tropical timber content of imported furniture. The Administration opposes the imposition of excise taxes on tropical timber imports.

MISCELLANEOUS ITEMS

A number of the items on the Committee's list are not covered by broad Administration initiatives. I will, therefore, discuss these separately.

A. Proposed Increase in the Tax on Inland Waterway Barge Fuel

Current Law. Section 4042 of the Code imposes an excise tax on liquid fuel used by commercial cargo vessels operating on inland and intracoastal waterways. The basic tax rate is 11 cents per gallon for 1990, 13 cents per gallon for 1991, 15 cents per gallon for 1992, 17 cents per gallon for 1993, 19 cents per gallon for 1994, and 20 cents per gallon thereafter. The revenues from the basic tax are deposited in the Inland Waterways Trust Fund. An additional tax of 0.1 cent per gallon is imposed to support the Leaking Underground Storage Tank Trust Fund. The

additional tax, like the corresponding tax on gasoline and diesel fuel, is expected to expire in August.

Administration's Position. We recommend that no change be made to the current tax treatment of inland waterway barge fuel.

B. Proposed Groundwater Source Pollution Tax

Current Law. There is currently no Federal tax on groundwater source pollution.

Administration's Position. The groundwater source pollution problem is best addressed by local government entities that have detailed knowledge of local sources of pollution and local geologic conditions. Groundwater pollution has many sources that vary by location. The relative responsibility for a contamination problem of a particular source is often difficult to determine. Pollutants move at varying speeds and in varying directions depending on geological conditions. Effective monitoring of groundwater is difficult and expensive. These technical and financial considerations make development of an equitable groundwater source pollution tax highly problematic. There is little assurance that a polluter's tax liability would correspond to his real relative contribution to pollution problems. It would be difficult to define a tax level that would actually lead to desired level of reduced emissions, and there would also be the risk that pollution would merely be transferred to another medium (e.g., air or surface water). Moreover, a fair tax would require prohibitively high administrative and compliance costs. We therefore do not support imposing a groundwater source pollution tax at this time. Better state or local planning to prevent pollution, coupled with available statutory authority under the Resource Conservation and Recovery Act, Superfund, and the Clean Water Act will more effectively address these problems.

C. Proposed Extension Beyond September 30, 1990, of Federal Tax Credits for Solar, Wind and Geothermal Property

Current law. Section 46 of the Internal Revenue Code allows a tax credit for investments in solar energy property, geothermal property, and ocean thermal property. For solar energy property and geothermal property, the tax credit is 10 percent. For ocean thermal property, the tax credit is 15 percent. These tax credits expire on September 30, 1990.

Solar energy property consists of equipment that uses solar energy to generate electricity or steam or to provide heating, cooling, or hot water in a structure. Geothermal property consists of equipment that converts the internal heat of the earth into electrical energy or another form of useful energy. Ocean thermal property consists of equipment that converts ocean thermal energy into electrical energy or another form of useful energy.

The tax credits for solar energy, geothermal, and ocean thermal property were originally scheduled to expire at the end of 1985, but were extended through 1988 by the Tax Reform Act of 1986. As part of this extension, the credit rates for solar energy and geothermal property were phased down to their current rates. The Technical and Miscellaneous Revenue Act of 1988 extended these tax credits through 1989, and the Revenue Reconciliation Act of 1989 extended these tax credits through September 30, 1990.

Administration's Position. We do not recommend the extension of these specialized energy tax credits because we question their effectiveness. The issue of tax incentives for solar and renewable energy sources will be examined, however, in the context of the National Energy Strategy.

The Administration is committed to encouraging the development of solar and renewable energy sources. The budget contains

a significant increase in expenditures for research and development in solar and renewable energy and energy conservation. The 1991 budget reflects $360 million to be devoted to these activities. We believe this budgetary increase would be a more appropriate use of the available budget resources.

D. Proposed Extension of the Federal Tax Credit for the Production of Fuels from Unconventional Sources

Current Law. Section 29 of the Code provides a tax credit for "qualified fuels" which are produced by the taxpayer and sold to an unrelated person during the taxable year. Qualified fuels generally include: (1) oil produced from shale and tar sands; (2) gas produced from geopressured brine, Devonian shale, coal seams, a tight formation, or biomass; (3) liquid, gaseous or solid fuels produced from coal; (4) certain processed wood fuels; and (5) steam produced from certain solid agricultural byproducts. Gas produced from a tight formation is eligible only if its price is regulated by the Federal Government; most tight sands gas is currently unregulated and therefore ineligible for the credit.

The credit is allowed per barrel of oil produced. For gas production, the credit is allowed per barrel-of-oil equivalent. The amount of the credit is adjusted annually for inflation, except for the tight sands credit. For 1988, the amount of the credit was $4.64 per barrel ($3 for tight sands gas). The credit will be phased out if the price of oil exceeds a ceiling, which is also adjusted for inflation. For 1988, the ceiling was $36.39 per barrel.

The tax credit is generally available with respect to qualified fuels which are: (1) produced from a well drilled after December 31, 1979, and before January 1, 1991, or produced in a facility placed in service after December 31, 1979, and before January 1, 1991; and (2) sold after December 31, 1979, and before January 1, 2001. More limited placed-in-service rules (generally before 1985) apply to qualified processed wood fuels and to solid agricultural byproduct steam.

Administration's Position. The President's budget proposed a number of incentives for domestic oil and gas production, as discussed previously. We believe these incentives are more important to national energy security and the revitalization of our domestic oil and gas industry than the extension of section 29.

E. The Desirability of an Excise Tax on Certain Outdoor Recreational Equipment

Current Law. The Internal Revenue Code imposes excise taxes on firearms and ammunition, sport fishing equipment, and bows and arrows, but does not tax other outdoor recreational equipment.

Administration's Position. The President's budget does not recommend imposition of such a tax on recreational equipment.

F. Ways in Which the Federal Tax System can Encourage Recycling, Including a Tax on Virgin Materials

Current Law. The Federal Tax Code does not provide a subsidy for recycling activity.

Administration's Position. A tax subsidy to encourage recycling is not an appropriate use of limited budgetary resources. Any such subsidy would apply uniformly to all areas, whereas the benefits of recycling depend upon the costs of disposal or of recycling waste material, which tend to vary by location and by types of material.

An alternative approach would be to tax virgin materials or products that use virgin materials. The Administration is

committed to reducing solid wastes through source reduction and recycling. We are studying the use of a raw materials tax to determine whether it would usefully contribute to achieving this goal. Depending on the specific material in question, even a small incremental change in costs for raw materials due to such a tax could tilt the market in favor of a greater use of secondary materials. We are concerned, however, about the issues surrounding administration of such a tax, including definitions, point of application, and enforceability.

This concludes my prepared remarks. I will be pleased to answer any questions the Committee may have.

Mr. DOWNEY. Secretary Graetz, if you would indulge us, Senator Domenici is here, and we would like to hear him and then come back and ask you some questions.

Mr. GRAETZ. Certainly.

STATEMENT OF HON. PETE V. DOMENICI, A U.S. SENATOR FROM THE STATE OF NEW MEXICO

Senator DOMENICI. Mr. Chairman and members of the committee, since I know you are very short of time and have a great diversity of subject matter, I have prepared rather detailed remarks on two issues. I think they answer most of the questions and probably will do a much better job than I am going to do here. So I would ask that you make the detailed analysis of my two ideas a part of the record.

Mr. DOWNEY. Without objection, so ordered.

Senator DOMENICI. Let me first compliment Representative Beryl Anthony for his significant work in the infrastructure. I am aware of your task force, and I compliment you. This is truly one of America's serious problems.

And, secondly, I want to thank Representative Pickle for cosponsoring a bill that I will discuss very briefly today. This is my first opportunity to try to excite some of the members of the House Ways and Means Committee on an issue in enhanced oil recovery, which I believe is an environmental issue of very, very significant proportions. We ought to seriously consider it.

Let me first discuss infrastructure and a notion that I have that I think deserves some consideration.

Mr. Chairman and members of the committee, there is no question that this is going to be a decade in the United States when we are going to focus on infrastructure in the United States and the deficiencies that exist. It is not as high profile an issue as the issue of the environment. What I choose to do in this bill I will discuss briefly with you. In your body it was introduced very recently by Representative Dickinson, and it carries the number H.R. 4100. In the Senate, it is S. 700.

I combined in this bill the notion of enhancing the infrastructure in the United States and, at the same time, focusing that on environmental cleanup.

Essentially what I have done in S. 700 is to provide for water supplies, sewage treatment, solid and hazardous waste disposal, and facilities needed to meet EPA standards. I suggest that we create an environmental infrastructure bond and give it the tax-exempt status that we have given to other governmental bonds, which have been the source of a great deal of pride in the United States. Those bonds built most of the local facilities in the United States. This Environmental Infrastructure Act makes these public works improvements that I have discussed less costly. It makes the investment of capital in them more attractive, both to local government and to the private sector, by ensuring that these investments will receive fair and favorable treatment in the Tax Code.

Frankly, I think we are confronted with an insurmountable problem if we do not have some kind of infrastructure tax-exempt bonds in the portfolio of things we are going to do to build back

America's infrastructure. These public infrastructure bonds would be freed from the constraints imposed on tax-exempt bonds in the recent tax law. Some might ask, Senator, are you really recommending that we break the tax reform package?

Let me say to the committee I am not recommending it unless we are ready to do it. But I am convinced that is why we are having a hearing here, that we are probably ready to do it. And I submit if we are ready to do that, we ought to seriously consider this kind of approach.

Infrastructure bonds are one area of great concern to me. Another is the public-private partnerships, which have taken on a new importance as we seek capital to meet these needs. So the second thrust of S. 700 encourages private investment in public facilities. It extends to all types of environmental infrastructure facilities, and this is very important because you have a precedent for it, the same tax treatment given now to solid waste facilities. That is already built into the code for private sector partnerships regarding that kind of infrastructure.

I would broaden it to include water supply, sewage treatment, and facilities needed to meet EPA standards. Obviously we have to be concerned about the cost of that. And I can only give you a rough estimate for what we are going to get. It seems to me to be something we should seriously consider.

The cost is about $350 million a year, Mr. Chairman, and members of the committee. That's the best estimate that I can get.

Now, let me quickly leave that. That is kind of easy. It is a tough decision. Are we going to really do that? The question is not whether it will work. Everyone that has studied it says it will work. It will encourage large amounts of capital. It will entice municipalities and local units of government to get more involved in this by issuing their tax-exempt bonds for these specific purposes.

Let me move to another area, which many people might not think of as an environmental issue. But let me suggest to you that each day when we read in the papers about oilspills and their potential, this committee must understand that so long as we increase our dependence upon foreign oil, the probability of oilspills increases, almost in a statistical manner.

We are now at a point where, within 8 years, if we were to reduce the entire mercantile, nonpetroleum deficit of this country—if we got it down to zero, Representative Pickle—in 8 years we would still have a $100 billion trade deficit. If you trace the line on imports of petroleum products and their increase, we will be back up to about $100 billion in deficit.

So what I recommend is a very essential part, and a simple part, of America's energy policy. I am very hopeful the Secretary of Energy, if he recommends a national policy, will recommend this one.

We leave about 70 percent of the oil in the ground when we drill an oil well in the United States. So, out there in Texas, New Mexico, Kansas, we drill an oil well and we take the oil out, and 70 percent is left under the ground.

We don't have to drill another well. The oil is already found, but we can't use it. That is because it requires new technology. En-

hanced recovery, principally carbon dioxide injection, could bring it up, recovering oil that is already ours and in the ground.

Essentially what I propose to do is to encourage America's producers to go ahead and invest the capital required to bring that oil up. If you were to pass the Domenici-Pickle bill, just think of this. The passage of that bill will increase America's recoverable reserves by 25 percent immediately. That 25 percent represents the oil that will be recovered by the investment. It's the marginal oil, the oil, incremental oil, the oil we would not otherwise get.

Now, let me suggest to you that, at a cost in lost Federal revenues of about 38 cents a barrel, you will recover this oil under this proposal. And the way we will finally draft it, those producing this oil will have to reinvest the incentive in more and more projects of this type. The loss to the Treasury, I can't tell you exactly, but the Joint Committee on Taxation has said it will be about $50 million a year at the beginning. I frankly believe that's somewhat low.

But let me tell you there is no incentive for producing energy for the United States that is better than this one. And let me suggest this is a time-sensitive American resource. What does that mean?

If the oil wells that I just described are abandoned, Mr. Chairman, we can no longer use the enhanced recovery mechanism. The oil there that belongs to American people, individuals and companies, will be gone. The rate of abandonment of these wells is such that, within 5 years, the economic access might be reduced by two-thirds, two-thirds of that 25 percent increase in America's reserves. The resources would disappear and not be available.

If we wake up in 5 years and say that was a heck of an idea, there's a high probability we will have lost two-thirds of it.

So I submit to you that, if you add up what you get for this tax incentive, you will get about $138 billion in reduced imported oil. I can't imagine a more cost-effective approach than to spend—let's assume our $50 million turns out to be $150 or $200 million a year over a decade. Let's take a hundred, over a decade, 1 billion. We increase our reserves 25 percent and produce it. And we do not spend $138 billion for imported oil.

I don't know when we will come to our senses and say let's do something like this.

My statement should be accompanied by the statement of Bill Dickinson on H.R. 4100. I ask that it be submitted in the record.

Thank you very much, Mr. Chairman, and members of the committee. It's a pleasure to be with you.

[The statements of Senator Domenici and Mr. Dickinson follow:]

SENATOR PETE V. DOMENICI
TESTIMONY
COMMITTEE ON WAYS AND MEANS
HOUSE OF REPRESENTATIVES OF THE UNITED STATES
HEARING ON LONG-TERM STRATEGIES TO IMPROVE THE ENVIRONMENT
S. 700 AND S. 828
10:20 A.M, TUESDAY, MARCH 6, 1990

Mr. Chairman, distinguished members of the Committee on Ways and Means.

As I understand it, this hearing has been called to examine long-term strategies relating to the environment and the Tax Code.

I commend you, Mr. Chairman, and the Members of the Committee for undertaking this important review, and I appreciate greatly the opportunity to offer some suggestions during these deliberations. I hope my comments will prove helpful in your examination of actions we can take to improve both our environment and our economic well being.

Our Environmental Infrastructure

First, I want to discuss what I like to term America's "environmental infrastructure." In doing so, I want to quote from a recent study on America's infrastructure --- the bricks and mortar that hold this nation together.

"If we spend too little on public works or if we invest in inefficient projects, society loses more than the direct public cost. In the long run, our ability to compete in the international economy will be weakened, and our standard of living will suffer."

That is a sound assessment. There is no doubt that, over the long run, a close link exists between our infrastructure and our competitive position in the world, our productivity.

Nor is there any doubt that we --- throughout the entire political system --- have allowed much of our national infrastructure to decline over the past three decades.

Infrastructure spending is down across the nation. It was 2.3 percent of our GNP in 1960; it is about 1 percent today.

The Congress confronts many alternatives. Some people tell us that we can solve our infrastructure problems by taking all the existing infrastructure trust funds off budget.

Others may say we need to move toward a capital budget at the Federal level, or a major infusion of new Federal grants. Some argue for higher, dedicated taxes, as I understand you have, Mr. Chairman.

Each of these alternatives merits attention. We need to encourage the construction of environmentally related investments in every way we can. Dedicated taxes are important, but there are areas of investment where dedicated Federal taxes are inappropriate.

Our assistance is needed, not only because of the value of the investment to society, but because the Federal government has mandated these investments, only to look the other way when it comes to financing.

I would like to focus my initial remarks on legislation that Senator David Boren of Oklahoma and I have sponsored in the Senate, S. 700, a bill to encourage environmental infrastructure spending.

Our bill is a relatively narrow one, designed to benefit four basic types of public works, each related to improving the American environment:

* Water supplies;

* Sewage treatment;

* Solid and hazardous waste disposal; and

* Facilities needed to meet EPA standards. This final category would include such things as mass transit investments in those regions of the nation where air pollution problems exist.

What S. 700 does is to encourage the construction of such facilities through the bond market. Frankly, I can't see how we can meet future needs without greater reliance on the bond market.

The Domenici-Boren bill, the Environmental Infrastructure Act of 1989, will make these public works improvements less costly as investments, both to local government and to the private sector, by ensuring that these investments receive fair and favorable treatment in the Tax Code.

I do not need to tell this Committee that the ease with which local governments finance public facilities through bonds is governed directly by the Tax Code. In turn, local utility rates are determined by how local capital investments are financed.

And large sums are at stake. The Public Securities Association found that over the period from 1984 through 1988, state and local jurisdictions issued an average of $137.2 billion annually in municipal bonds for public purposes.

Assuming that average annual interest rates remain constant, the PSA concluded that if those five years of bonds had all been taxable, the added burden by the end of this century on communities and states would have been $283 billion.

The added burden for the State of Illinois, Mr. Chairman, would be $12.2 billion, while the added burden for the State of New Mexico would be $1.6 billion.

To help build for our future, S. 700 creates a new category of tax-exempt bond, an "infrastructure bond." An infrastructure bond would be an obligation, issued by a state or local government, that is used to finance any of the four types of public facilities I have cited.

These public infrastructure bonds will be freed from constraints imposed on tax-exempt bonds in recent tax law. These bonds would not be subject to a cap. These bonds will not be subject to the alternative minimum tax. These bonds may be refunded at any time.

S. 700, I should point out, is based directly upon the recommendations in two important recent studies on America's infrastructure.

The initial study came from a distinguished panel of public officials and private citizens, the Private Sector Advisory Panel on Infrastructure Financing. That Panel was established several years ago to advise the Senate Budget Committee on techniques the Congress might use to increase public investments in roads, dams, airports, bridges, water systems, and waste disposal.

The second report --- "Fragile Foundations: A Report on America's Public Works" --- was released two years ago by an equally distinguished group, the National Council on Public Works Improvement.

Both reports concluded that America faces a great challenge in reviving our decaying public works investment. Both reports deserve your careful attention.

Since then, the Congressional Budget Office's study, "New Directions for the Nation's Public Works," suggested greater non-Federal responsibility in targetting infrastructure investments.

Infrastructure bonds are one area of concern to me. Another is public-private partnerships, which have taken on new importance as we seek capital to meet public needs.

So the second major thrust of S. 700 encourages private investments in public facilities. S. 700 extends to all types of environmental infrastructure facilities the same tax treatment the Tax Code now gives only to solid waste facilities.

To attract private investment, sewage, solid and hazardous waste, and water facilities must hold the promise of profitability. Projects of this sort are long-term investments. They do not generate a quick profit; the return is low and spread over many years. The cost-recovery rules now in the Tax Code lessen the economic feasibility of such arrangements.

I think the National Council may have set the correct tone when it said America needed "a national commitment shared by all levels of government and the private sector, to increase capital spending by as much as 100 percent above current levels."

The Joint Committee on Taxation has examined the version of S. 700 that I introduced during the 100th Congress. The Joint Committee estimated the cost in lost revenues at $1.8 billion over five years --- a modest revenue loss in comparison with the benefits and need.

I would also note, Mr. Chairman, that a growing number of organizations have endorsed S. 700, including the American Public Works Association, the Association of General Contractors, and the Public Securities Association.

Mr. Chairman, I have attached with my testimony a copy of S. 700, as well as a section-by-section analysis of S. 700, a Congressional Record insert that includes the Joint Committee's cost analysis of the earlier version of this legislation, and a partial list of organizations that have endorsed the bill. I ask that these items be included in your hearing record.

Enhanced Oil Recovery

Before closing, Mr. Chairman, I would like to turn to one other topic, a topic not as directly related to the environment as S. 700, yet linked closely to our environmental and economic well being.

This involves the potentials in the Tax Code for meeting America's energy needs for this decade and into the next century --- doing that in a way that lowers the threat to our environment.

America, in my view, must maximize our development of existing oil wells. Surely that should be a premise on which environmentalists, conservationists, and pro-development advocates can agree.

By "maximizing development," I mean getting as much as possible out of each well drilled. That, in turn, means relatively less new exploration and relatively less movement of oil on the high seas --- each action lowering the exposure of damage to our environment.

Today, when the oil industry drills a well and extracts all that it normally can extract economically, about two-thirds of the oil is left behind. It simply is uneconomic to pump more than a third of the oil from a typical well in today's market.

Let me repeat that: Traditional oil recovery techniques leave 65 to 70 percent of the oil in the ground.

Yet the science exists to extract far more oil per well. Unfortunately, those techniques are expensive; they require considerable capital investment beyond what is generally economic under today's tax structure. Most of that oil will not be recovered under existing tax policy unless the price of oil rose substantially from today's levels.

Assuming $20-a-barrel oil and existing Federal tax policy, the Department of Energy estimates America's current recoverable petroleum reserves at 26 billion barrels.

To enlarge that supply, I have proposed a modest package of tax incentives --- S. 828, the Enhanced Oil Recovery Tax Act of 1989.

I am very pleased that my good friend Congressman Pickle has introduced the companion bill in the House.

Our legislation has a very simple goal: Increasing production from existing American wells.

If we assume that the per-barrel price of oil remains at $20, DOE estimates that S. 828 would increase America's economically recoverable oil reserves by 25 percent. The cost in lost Federal revenues for each additional barrel of oil would be no more than 35 cents --- less than a penny a gallon.

Let me go through those figures again. S. 828 will mean an additional 6.9 billion barrels of oil production --- at a total loss in Federal revenues over several decades of $2.4 billion according to DOE.

Last year, the Joint Committee on Taxation estimated that my bill, with several modifications, would cost $13 million in the first year, and would cost $151 million over the five-year period, 1990 to 1994.

That confirms my view that the revenue loss as a result of instituting these incentives would be very minor in the first several years.

DOE says S. 828 will add 428 million barrels to Oklahoma's reserves; Louisiana would add 302 million barrels; Texas would add 1.9 billion barrels. In my own state, another 122 million barrels of oil could be recovered economically under S. 828 --- more than doubling our recoverable reserves, creating 8,000 new jobs by the year 2000.

All these gains would be achieved simply through increased productivity from each well existing now, or each well that would be drilled in any event.

S. 828 means new investment and new jobs --- American jobs --- raising employment in areas of relatively high unemployment. Inevitably, that will produce a ripple effect as economic activity increases, but I have not included those gains in my calculations.

Mr. Chairman, this is a time-sensitive challenge. The accelerating rate of well abandonments and well plugging could eliminate, within five years, economic access to as much as two-thirds of the remaining oil that could be recovered through Enhanced Oil Recovery.

If the Congress fails to act promptly, we will lose an important opportunity, an important economic and environmental opportunity.

Maybe even more importantly, this legislation will reduce dramatically our dependence on foreign petroleum.

If American consumers were to purchase those 6.9 billion barrels of oil on the world market --- as we inevitably will, if we are unable to increase at-home reserves --- we will have to pay $138 billion in foreign markets [at $20 a barrel]. And we will watch with some fear as that oil is shipped across the sea; 5,750 voyages of a tanker with the capacity of the Exxon Valdez would be required to move those 6.9 billion barrels of oil to American users.

Because this bill would increase U.S. production, it would decrease the number of tankers needed to transport that 6.9 billion barrels of oil. In an age when we are experiencing a tanker spill a day, less foreign oil would mean fewer tankers. Fewer tankers would mean less risk of tanker spills and less risk of environmental devastation.

Last year, the gap between the oil we produced and what we consumed cost us $35.2 billion on our trade deficit. That was 29 percent of the total trade deficit.

Experts say that within 10 years we could spend $150 billion to $200 billion a year for imported oil. That amount is greater than our total trade deficit today, raising serious questions about our ability ever to reduce the deficit.

Let me return to the example of the Exxon Valdez. Under S. 828, for every Exxon Valdez that fails to sail for America --- and we recover oil instead from enchanced techniques out of wells in Texas or New Mexico or Kansas --- the cost in direct revenue loss to the Treasury would be $400,000.

But the 1.2 million barrels carried aboard the Exxon Valdez would have a value of $24 million --- $24 million spent in the Middle East and added to our trade deficit.

Imports today account for about 40 percent of the oil used in America. Imports are likely to account for more than half our oil usage within a few years. Last December, our dependence on imported oil rose to 54 percent.

If S. 828 were enacted, the United States could reduce the trade deficit by as much as $50 dollars for every dollar foregone by the Treasury.

I see S. 828 as a painless method --- one that can be achieved with no rise in the price of oil to consumers --- to expand dramatically America's at-home oil production, achieving that goal in a manner that is sound economically and sound environmentally.

In closing, Mr. Chairman, allow me to list the precise provisions of the Enhanced Oil Recovery Tax Act of 1989:

* The bill provides a 10 percent investment tax credit for the costs of enhanced oil recovery projects.

* The bill creates the what I like to call the "Energy Reinvestment Allowance." It allows a 27-1/2 percentage depletion on the incremental oil produced as a result of enhanced oil recovery techniques, so long as an amount equal to the tax benefit is reinvested in additional enhanced oil recovery, exploration and development, or conservation. The availability of the energy reinvestment allowance is further limited to pay-back. Pay-back is the point at which the producer has sold enough oil to recoup the investment associated with the enhanced oil recovery project. Under S. 828, current law applies to current reserves.

* The bill suspends the intangible drilling costs and percentage depletion preferences for the alternative minimum tax, so long as the price of oil remains below $30 a barrel. Should the price rise above that $30 figure, most of the benefits to the producers would disappear. I am convinced that a ceiling of less than $30 a barrel would be ineffective, failing to accomplish the goals set out in the legislation.

These enhanced oil recovery incentives [the energy investment allowance, the AMT holidays, and the credit] would be available only until a producer reaches "pay-back," the point where the producer has recovered his investment.

* The bill permits the states to determine which projects would qualify as enhanced oil recovery projects.

* The bill would increase the net income limitation on oil and gas to 100 percent of taxable income.

Since the bill was introduced, I have received many comments from industry, the Administration, and others. Several oil producers have told me that this legislation would increase their domestic reserves by 20 to 30 percent.

One producer wrote: "If enacted S. 828, would not only increase current domestic oil and gas production, but also foster new and innovative extraction techniques, which would substantially broaden our nation's energy base, bolstering our national security interests."

The President has also put forth the outline of his enhanced oil recovery proposal. This is evidence that the President recognizes the important contribution to our energy security that enhanced oil recovery could make. I hope your Committee agrees.

Mr. Chairman, Members of the Committee, thank you for this opportunity to testify. I have attached with my testimony a copy of S. 828 for your consideration and printing in the hearing record.

S. 700, THE DOMENICI-BOREN INFRASTRUCTURE BILL
SECTION-BY-SECTION OUTLINE

Section 1 cites the bill as the "Environmental Infrastructure Act of 1989," and declares that amendments in the bill are to the Internal Revenue Code of 1986.

Section 2 creates a new category of tax-exempt bond, the "infrastructure bond."

Subsection (a) amends the Tax Code definition of "private activity bond" to exclude the new "infrastructure bond." This change means that "infrastructure bonds" will be treated as "governmental bonds," and be freed from the constraints imposed on tax-exempt bonds by the 1986 Tax Reform Act. These infrastructure bonds would not be subject to the existing cap, nor the alternative minimum tax. These bonds may be refunded at any time.

Subsection (b) defines "infrastructure bond" as any state or local bond where 95 percent of the proceeds are used to provide "infrastructure facilities." "Infrastructure facilities" are defined as sewage facilities, solid waste and hazardous waste disposal facilities, facilities for the furnishing of water, and facilities needed for state and local government to achieve compliance with Federal environmental statutes and regulations. This subsection also includes a definition of "hazardous waste."

Subsection (c) makes a series of conforming amendements to make subsections (a) and (b) consistent with the remainder of the Tax Code.

Subsection (d) specifies that this section applies to bonds issued after December 31, 1989.

Section 3 modifies the arbitrage rebate requirements to provide local governments with greater latitude in managing the proceeds of bond issues, minimizing local costs. This permits state and local governments to retain earnings from the temporary reinvestment of bond proceeds.

Paragraph (1) of subsection (a) provides that reasonable reserve funds are not included in the gross proceeds that must be spent within a certain period to avoid the rebate requirements.

Paragraph (2) extends the temporary period for holding bond proceeds. Under current law, all funds must be spent within 6 months, or investment profits must be rebated to the Treasury. Under this paragraph, rebate can be avoided if at least 20 percent of the proceeds are spent for construction, reconstruction, or rehabilitiation one year after the bonds are issued, at least 50 percent by two years, and at least 95 percent by three years. If the bond is not issued for the purpose of contruction, reconstruction, or rehabilitiation, the proceeds must be spent in one year.

Subsection(b) specifies that this section applies to bonds issued after December 31, 1989.

Section 4 places all infrastructure facilities, as defined in this bill, within the 7-year Accelerated Cost Recovery Class, which means these facilities will be depreciated in the same manner as solid waste facilities under current law. Municipal wastewater treatment plants are now in the 15-year class, while municipal sewers and water supply facilities are in the 20-year class.

Subsection (a) specifies that an infrastructure facility will be classified a 7-year property.

Subsection (b) assigns the infrastructure facilities a 10-year depreciation period as an alternative if the property is financed with tax-exempt bonds, or if it is leased to a tax-exempt entity. Currently, municipal wastewater treatment plants financed with tax-exempt bonds are depreciated over 24 years, water supply facilities over 30 years, and municipal sewers over 50 years.

Subsection (c) specifies that infrastructure facilities will not be included in the term "tax-exempt use property" and thus are not subject to the restrictions imposed on property leased to tax-exempt entities.

Subsection (d) amends other references to Section 168(h) to reflect the renumbering required by this section.

Subsection (e) specifies that Section 4 applies to property placed in service after December 31, 1989.

II

101ST CONGRESS
1ST SESSION

S. 700

To amend the Internal Revenue Code of 1986 to meet the growing challenge of America's infrastructure needs.

IN THE SENATE OF THE UNITED STATES

APRIL 5 (legislative day, JANUARY 3), 1989

Mr. DOMENICI introduced the following bill; which was read twice and referred to the Committee on Finance

---

A BILL

To amend the Internal Revenue Code of 1986 to meet the growing challenge of America's infrastructure needs.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; AMENDMENTS OF 1986 CODE.

(a) SHORT TITLE.—This Act may be cited as the "Environmental Infrastructure Act of 1989".

(b) AMENDMENT OF 1986 CODE.—Except as otherwise expressly provided, whenever in this Act an amendment or repeal is expressed in terms of an amendment to, or repeal of, a section or other provision, the reference shall be considered

to be made to a section or other provisions of the Internal Revenue Code of 1986.

SEC. 2. INFRASTRUCTURE TAX-EXEMPT BONDS.

(a) IN GENERAL.—Subsection (a) of section 141 (relating to private activity bonds) is amended by inserting the words "which is not an infrastructure bond and which is" after the words "any bond" and before the word "issued".

(b) INFRASTRUCTURE BONDS DEFINED.—Section 141 is amended by inserting after subsection (e) the following new subsection:

"(f) INFRASTRUCTURE BONDS.—

"(1) IN GENERAL.—For purposes of subsection (a), the term 'infrastructure bond' means any State or local bond which is issued as part of an issue 95 percent or more of the proceeds of which are to be used to provide infrastructure facilities which are available for the ultimate use of the general public (including electric utility, industrial, agricultural, commercial, nonprofit, or governmental users).

"(2) INFRASTRUCTURE FACILITIES.—For purposes of this subsection, the term 'infrastructure facilities' means—

"(A) sewage facilities,

"(B) solid waste disposal facilities,

"(C) hazardous waste disposal facilities,

"(D) facilities for the furnishing of water, or

"(E) facilities, whether or not described in subparagraphs (A) through (D), which are constructed, reconstructed, rehabilitated, or acquired for the purpose of achieving compliance by a State or local government with Federal statutes and regulations administered by the United States Environmental Protection Agency.

"(3) HAZARDOUS WASTE DEFINED.—For purposes of this subsection, the term 'hazardous waste facility' means any facility for the disposal of hazardous waste, but only if—

"(A) the facility is subject to final permit requirements under subtitle C of title II of the Solid Waste Disposal Act (Public Law 98-616), and

"(B) the portion of such facility which is to be provided with such issue does not exceed the portion of the facility which is ultimately to be used by persons other than—

"(i) the owner or operator of such facility, and

"(ii) any related person (within the meaning of section 144(a)(3)) to such owner or operator, unless such owner or operator is

a State or local government or agency thereof.".

(c) CONFORMING AMENDMENTS.—

(1) Section 142 is amended—

(A) by striking out paragraphs (4), (5), (6), and (10) in subsection (a) and redesignating paragraphs (7), (8), (9), and (11) as paragraphs (4), (5), (6), and (7) respectively;

(B) by striking out "paragraph (1), (2), (3), or (11) of subsection (a)" each place it appears in subsection (c) and inserting in lieu thereof "paragraph (1), (2), (3), or (7) of subsection (a)";

(C) by striking out "subsection (a)(11)" each place it appears in subsection (i) and inserting in lieu thereof "subsection (a)(7)"; and

(D) by striking out subsections (e) and (h) and redesignating subsections (f), (g), and (i) as subsections (e), (f), and (g) respectively.

(2) Section 146 is amended—

(A) by striking out the words "paragraph (11) of section 142(a)" in subsection (g) and inserting in lieu thereof "paragraph (7) of section 142(a)";

(B) by striking out in paragraph (3)(B) of subsection (k) the words "paragraph (4), (5), (6),

or (10) of subsection (a)" and inserting in lieu thereof "subsection (f)(2) of section 141";

(C) by striking out the words "paragraphs (2) and (3)" in paragraph (1) of subsection (k) and inserting in lieu thereof "paragraph (2)";

(D) by striking out paragraph (2) of subsection (k) and redesignating paragraph (3) as paragraph (2); and

(E) by striking out subsection (h) and redesignating subsections (i) through (n) as subsections (h) through (m) respectively.

(3) Section 149 is amended by striking out "146(i)" in clause (i) of subsection (f)(4)(B) and inserting in lieu thereof "146(h)".

(4) Section 150 is amended by striking out "paragraph (7)" each place it appears and inserting in lieu thereof "paragraph (4)".

(5) Subparagraph (C) of paragraph (5) of subsection 168(g) is amended by substituting "(4)" for "(7)".

(d) EFFECTIVE DATE.—The amendments made by this section shall apply to obligations issued after December 31, 1989.

SEC. 3. ARBITRAGE REBATE REQUIREMENT MODIFIED.

(a) IN GENERAL.—Paragraph (4) of subsection (f) of section 148 is amended—

(1) by striking the first sentence of clause (i) of subparagraph (B) and inserting in lieu thereof the following sentence: "An issue shall, for purposes of this subsection, be treated as meeting the requirements of paragraph (2) (but not with respect to proceeds deposited in a reasonably required reserve or replacement fund) if the gross proceeds of the issue (not including proceeds deposited in a reasonably required reserve or replacement fund) are expended for the governmental purposes for which the issue was issued no later than the day which is six months after the date of issuance of such issue.";

(2) by striking all of clause (ii) of paragraph (B) after the words "ADDITIONAL PERIOD FOR CERTAIN BONDS.—" and substituting in lieu thereof the following:

"(I) OBLIGATIONS OTHER THAN PRIVATE ACTIVITY BONDS.—In the case of an issue of obligations other than private activity bonds (and other than tax or revenue anticipation bonds), an issue shall be treated as meeting the requirements of paragraph (2) if—

"(A) no later than the day which is one year after the date of issuance of such issue, at least 20 percent of the gross proceeds have been ex-

pended for the governmental purposes of the issue;

"(B) no later than the day which is two years after the date of issuance of such issue, at least 50 percent of the gross proceeds have been expended for the governmental purposes of the issue; and

"(C) no later than the day which is three years after the date of issuance of such issue, at least 95 percent of the gross proceeds have been expended for the governmental purposes of the issue.

"For purposes of this subclause only, proceeds expended more than one year after the date of issuance shall be considered to have been expended for the governmental purposes of the issue only if they are expended for construction, reconstruction, or rehabilitation (including the acquisition of land, equipment, and furnishings).

"(II) QUALIFIED 501(c)(3) BONDS.—In the case of a qualified 501(c)(3) bond, clause (i) shall be applied by substituting '1 year' for '6 months' with respect to the portion of the proceeds of the issue which are not expended in accordance with clause (i) if such portion

does not exceed the lesser of 5 percent of the proceeds of the issue or $100,000."

(b) EFFECTIVE DATE.—The amendments made by this section shall apply to obligations issued after December 31, 1989.

SEC. 4. INFRASTRUCTURE FACILITIES GENERALLY 7-YEAR PROPERTY.

(a) IN GENERAL.—Subparagraph (C) of paragraph (3) of subsection 168(e) (relating to classification of certain recovery property) is amended by striking out the word "and" from clause (ii), redesignating clause (iii) as clause (iv), and inserting after clause (ii) the following new clause:

"(iii) any infrastructure facility (within the meaning of section 141(f)(2)), except as provided in paragraph (3)(B)(vi) of this subsection, and".

(b) ALTERNATIVE DEPRECIATION SYSTEM.—The chart in subparagraph (B) of paragraph (3) of subsection 168(g) (relating to special rules for determining class life) is amended by striking out the lines assigning class lives to property described in subparagraphs (D)(i) and (E) and adding after the line assigning a class life to property described in subparagraph (C)(ii) and before the line assigning a class life to property described in subparagraph (D)(ii) the following line:

"(C)(iii) ..... 10"

(c) PROPERTY LEASED TO A TAX-EXEMPT ENTITY.—Section 168(h) is amended by redesignating paragraphs (3) through (8) as paragraphs (4) through (9) respectively and inserting after paragraph (2) the following new paragraph:

"(3) EXCEPTION FOR PROPERTY WHICH IS PART OF AN INFRASTRUCTURE FACILITY.—For purposes of this subsection, the term 'tax-exempt use property' shall not include any property which is part of an infrastructure facility (within the meaning of section 141(f)(2))."

(d) CONFORMING AMENDMENTS.—

(1) Subparagraph (D) of section 46(e)(4) is amended by striking out "paragraphs (5) and (6)" and inserting in lieu thereof "paragraphs (6) and (7)".

(2) Subparagraph (D) of section 48(a)(5) is amended by striking out "paragraphs (5) and (6)" and inserting in lieu thereof "paragraphs (6) and (7)".

(e) EFFECTIVE DATE.—The amendments made by this section shall apply to property placed in service after December 31, 1989.

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United States of America

Congressional Record

PROCEEDINGS AND DEBATES OF THE 101st CONGRESS, FIRST SESSION

Vol. 135 WASHINGTON, THURSDAY, NOVEMBER 16, 1989 No. 161

Senate

S. 700—IMPORTANT LEGISLATION AT A MODEST COST

● Mr. DOMENICI. Mr. President, earlier this year I introduced S. 700, the Environmental Infrastructure Act of 1989.

This is an important legislation, and I am delighted that my good and distinguished friend from Oklahoma [Mr. BOREN] has agreed to join me as the primary cosponsor of the bill. His participation will be very important.

S. 700 seeks to assist State and local governments in issuing bonds to build infrastructure to improve the environment—water supply systems, sewage treatment facilities, solid and hazardous waste disposal systems, and investments needed to meet EPA requirements.

Because of questions that were raised regarding the cost of this legislation, I requested that the Joint Committee on Taxation analyse S. 700, which carried the number S. 2311 in the 100th Congress, and provide an estimate of its costs.

Mr. President, I ask that the joint committee's estimate be printed at this point in the RECORD.

The estimate follows:

CONGRESS OF THE UNITED STATES,
JOINT COMMITTEE ON TAXATION
Washington, DC, June 15, 1989.

Hon. PETE V. DOMENICI,
U.S. Senate, 434 Senate Dirksen Office Building, Washington, DC.

DEAR SENATOR DOMENICI: This is the response to your request for a revenue estimate for S. 2311, the Environmental Infrastructure Act of 1988, as introduced in the 100th Congress. The provisions of this bill would (1) create a new class of tax-exempt bonds termed infrastructure bonds, (2) revise the arbitrage rebate rules, (3) and modify the treatment of infrastructure facility assests for depreciation purposes.

The class of infrastructure bonds would, in general, be composed of a subset of private activity bonds allowed under present law. Specifically, tax-exempt bonds issued for sewage, solid waste, hazardous waste disposal or water-furnishing facilities, or to achieve compliance with requirements imposed by the U.S. Environmental Protection Agency, would become infrastructure bonds. In addition, the definition of hazardous waste facility would be made less restrictive. Infrastructure bonds would no longer be subject to the unified volume cap limiting the issuance of private activity bonds.

Under the bill, two significant changes are made to the arbitrage rebate rules. First, an exception is provided to the six-month temporary investment period rules for funds deposited in a "reasonably required" reserve or replacement fund. Secondly, additional time for nonpurpose investments is granted to bonds other than private activity bonds or qualified 501(c)(3) bonds so long as specified expenditure targets are met.

Infrastructure facilities would be classified as 7-year property for depreciation purposes. For property subject to the alternative depreciation system, a 10-year class life would be assigned. Finally, an exception would be made to the tax-exempt entity leasing rules for property that is part of an infrastructure facility.

Assuming the proposal to be effective for bonds issued after December 31, 1988, and an enactment date of October 1, 1989, we currently estimate that the adoption of this proposal would have the following impact on fiscal year Federal budget receipts:

FISCAL YEARS

[Millions of dollars]

1990	1991	1992	1993	1994	1989–94
−0.1	−0.3	−0.4	−0.4	−0.6	−1.8

It should be noted that this estimate assumes the December 31, 1989, sunset of the authority to issue mortgage revenue bonds and small-issue industrial development bonds, as provided in present law. Should the authority to issue these bonds be extended, the estimated revenue impact of this proposal may rise substantially.

I hope this information is helpful to you. If we can be of further assistance, please let me know.

Sincerely,

RONALD A. PEARLMAN. ●

Partial list of groups and organizations supporting S.700 or the concept and purposes of the legislation

American Consulting Engineers Council

American Public Works Association

American Society of Civil Engineers

American Water Works Association

Association of General Contractors

Council of Infrastructure Financing Authorities

Government Finance Officers Association

National Association of Home Builders

National Association of Water Companies

National Rural Water Association

National Society of Professional Engineers

National Utility Contractors Association

Public Securities Association

II

101ST CONGRESS
1ST SESSION

S. 828

To amend the Internal Revenue Code of 1986 to provide incentives for the removal of crude oil and natural gas through enhanced oil recovery techniques so as to add as much as 10 billion barrels to the United States reserve base, to extend the production of certain stripper oil and gas wells, and for other purposes.

IN THE SENATE OF THE UNITED STATES

APRIL 18 (legislative day, JANUARY 3), 1989

Mr. DOMENICI (for himself, Mr. BOREN, Mr. DOLE, Mr. NICKLES, Mr. WALLOP, Mr. GARN, Mr. BINGAMAN, Mr. JOHNSTON, Mr. MCCLURE, and Mr. GRAMM) introduced the following bill; which was read twice and referred to the Committee on Finance

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A BILL

To amend the Internal Revenue Code of 1986 to provide incentives for the removal of crude oil and natural gas through enhanced oil recovery techniques so as to add as much as 10 billion barrels to the United States reserve base, to extend the production of certain stripper oil and gas wells, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the "Enhanced Oil and Gas Recovery Tax Act of 1989".

(b) TABLE OF CONTENTS.—

Sec. 1. Short title; table of contents.
Sec. 2. Enhanced oil and gas recovery depletion allowance.
Sec. 3. Alternative minimum tax provisions.
Sec. 4. Research and development credit.

SEC. 2. ENHANCED OIL AND GAS RECOVERY DEPLETION ALLOWANCE.

(a) IN GENERAL.—Section 613A of the Internal Revenue Code of 1986 (relating to limitations on percentage depletion in case of oil and gas wells) is amended by redesignating subsection (e) as subsection (f) and by inserting after subsection (d) the following new subsection:

"(e) OIL AND GAS RECOVERED THROUGH ENHANCED RECOVERY TECHNIQUES.—

"(1) IN GENERAL.—In the case of so much of the taxpayer's production of domestic crude oil or natural gas during the enhanced recovery period which is incremental tertiary oil or incremental tertiary gas—

"(A) the allowance for depletion shall be computed in accordance with section 613, and

"(B) for purposes of section 613(a), the percentage determined under paragraph (2) shall be deemed to be the percentage specified under section 613(b).

"(2) ENHANCED OIL RECOVERY DEPLETION PERCENTAGE.—

"(A) IN GENERAL.—The percentage determined under this paragraph shall be 27.5 percent.

"(B) PHASE-OUT AS OIL PRICES INCREASE.—In the case of production during any calendar year, if the average annual removal price during the calendar year exceeds $30, the percentage under subparagraph (A) shall be reduced (but not below 15 percent) by 1 percentage point for each dollar of such excess.

"(C) AVERAGE ANNUAL REMOVAL PRICE.—For purposes of subparagraph (B), the average annual removal price for any calendar year shall be determined by dividing the taxpayer's aggregate production of domestic crude oil during the calendar year by the aggregate amount for which such domestic crude oil was sold (determined after application of paragraphs (2), (3), and (4)) of section 4988(c) by the taxpayer.

"(D) INFLATION ADJUSTMENT.—In the case of any calendar year after 1990, the $30 amount under subparagraph (B) shall be adjusted by multiplying such amount by the inflation adjustment factor for such calendar year determined under section 29(d)(2)(B) by substituting '1989' for '1979'.

"(E) NATURAL GAS.—The percentage under this paragraph with respect to incremental natural gas shall be determined in the same manner as for incremental tertiary oil.

"(3) INCREMENTAL TERTIARY OIL OR GAS.—For purposes of this subsection—

"(A) INCREMENTAL TERTIARY OIL.—The term 'incremental tertiary oil' has the meaning given such term by section 4993, except that—

"(i) the date of the enactment of this paragraph shall be substituted for each of the following:

"(I) March 31, 1979 in section 4993(b)(1),

"(II) 1978 in section 4993(b)(1)(A), and

"(III) May 1979 in section 4993(c)(2)(B),

"(ii) reservoir improvements (including infill patterns and pattern conformance) shall be treated as part of a project which is otherwise a qualified tertiary recovery project,

"(iii) nonhydrocarbon gas flooding, tight formation gas as defined in section 107(c)(3), (4) and (5) of the Natural Gas Policy

Act, and tight formation oil with a 5 millidarces permeability standard shall be treated as meeting the requirements of section 4993(c)(2)(A), and

"(iv) any expansion (either horizontally or vertically) after the date of the enactment of this paragraph of a project begun on or before such date shall be treated as a separate project.

"(B) INCREMENTAL TERTIARY GAS.—The determination as to whether domestic natural gas is incremental tertiary gas shall be made in a manner similar to the manner as the determination whether domestic crude oil is incremental tertiary oil is made. For purposes of the preceding sentence, directional drilling in a tight sands formation shall be treated as meeting the requirements of section 4993(c)(2)(A).

"(4) ENHANCED RECOVERY PERIOD.—For purposes of this subsection—

"(A) IN GENERAL.—The Secretary shall publish a schedule of enhanced recovery periods for projects which—

"(i) is based on the average period which is required for a project to recover the

expenses of the type of qualified tertiary recovery project involved, and

"(ii) takes into account regional differences.

"(B) TRANSITION RULE.—An enhanced recovery period shall not end before the later of—

"(i) the date which is 6 months after the publication of the schedule under subparagraph (A), or

"(ii) the date specified in the schedule.

"(5) SPECIAL RULE FOR EXISTING PROJECTS.—In the case of a project the beginning date for which begins on or before the date of the enactment of this paragraph—

"(A) oil or gas produced after such date of enactment which (but for the project beginning date) would be treated as incremental tertiary oil or gas shall be so treated solely for purposes of this subsection, and

"(B) paragraph (2)(A) shall be applied by substituting '18 percent' for '27.5 percent'.

"(6) OTHER RULES.—For purposes of this subsection—

"(A) COORDINATION WITH OTHER PROVISIONS.—Unless the taxpayer elects not to have

this subsection apply to incremental tertiary oil or gas, such oil and gas shall not be taken into account in computing the taxpayer's depletable oil quantity under subsection (c).

"(B) REFERENCES.—Any reference to a section of chapter 45 (relating to windfall profit tax on crude oil) shall be a reference to such section as in effect before its repeal.

"(7) TERMINATION.—This subsection shall not apply to production after December 31, 2009, except that in the case of production after December 31, 1999, and before January 1, 2010, this subsection shall apply only to production from projects the beginning date for which is before January 1, 2000.".

(b) NET INCOME LIMITATION ON PERCENTAGE DEPLETION NOT TO APPLY.—Section 613(a) of the Internal Revenue Code of 1986 (relating to percentage depletion) is amended—

(1) by striking out "(a) GENERAL RULE.—" and inserting:

"(a) PERCENTAGE DEPLETION ALLOWED.—

"(1) IN GENERAL.—", and

(2) by adding at the end thereof the following new paragraph:

"(2) SPECIAL RULES FOR INCREMENTAL TERTIARY OIL AND GAS.—In the case of any property from which incremental tertiary oil or gas to which section 613A(e) applies is produced—

"(A) paragraph (1) shall be applied separately with respect to such oil or gas and other production from such property,

"(B) income and deductions shall be allocated (for purposes of paragraph (1) and section 613A(c)(7) (A) or (B)) to such production in proportion to the gross income during the taxable year from such production, and

"(C) the second sentence of paragraph (1) shall be applied with respect to the incremental tertiary oil or gas by substituting '100 percent' for '50 percent'."

(c) EFFECTIVE DATE.—The amendments made by this section shall apply to production after the date of the enactment of this Act.

SEC. 3. ALTERNATIVE MINIMUM TAX PROVISIONS.

(a) IN GENERAL.—Section 57 of the Internal Revenue Code of 1986 (relating to items of tax preference) is amended by adding at the end thereof the following new subsection:

"(c) SPECIAL RULES FOR OIL AND GAS REMOVED THROUGH ENHANCED RECOVERY TECHNIQUES.—

"(1) IN GENERAL.—If the average annual removal price for the calendar year in which the taxable year begins is less than $30, paragraphs (1) and (2) of subsection (a) shall not apply to—

"(A) the deduction for depletion for incremental tertiary oil or gas determined under section 613A(e), or

"(B) any intangible drilling costs properly allocable to incremental tertiary oil or gas.

"(2) ALLOCATION RULES.—No amounts properly allocable to incremental tertiary oil or gas shall be taken into account under paragraphs (1) and (2) under subsection (a) in determining any deduction for depletion, adjusted basis, excess intangible drilling costs, or net income.

"(3) AVERAGE REMOVAL PRICE.—For purposes of this subsection—

"(A) IN GENERAL.—The term 'average annual removal price' has the meaning given such term by section 613A(e)(2)(C).

"(B) INFLATION ADJUSTMENT.—The $30 amount under paragraph (1) shall be adjusted in the same manner as provided in section 613A(e)(2)(D).

"(4) TERMINATION.—This subsection shall not apply to production, or costs paid or incurred, after December 31, 2009, except that this subsection shall apply to production, or costs paid or incurred, after December 31, 1999, and before January 1, 2010, only with respect to projects the beginning date for which is before January 1, 2000."

(b) EFFECTIVE DATE.—The amendment made by this section shall apply to production, or costs paid or incurred, after the date of the enactment of this Act.

SEC. 4. RESEARCH AND DEVELOPMENT CREDIT.

(a) IN GENERAL.—Section 41 of the Internal Revenue Code of 1986 (relating to research and development credit) is amended by adding at the end thereof the following new subsection:

"(j) SPECIAL RULES FOR RESEARCH RELATING TO OIL AND GAS TERTIARY RECOVERY PROJECTS.—For purposes of this section—

"(1) any research to discover or improve (in accordance with sound engineering principles) 1 or more tertiary recovery methods for domestic crude oil or natural gas shall be treated as qualified research,

"(2) this section shall be applied separately with respect to such research (including the computation of separate base period research expenses), and

"(3) subsection (a)(1) shall be applied by substituting '10 percent' for '20 percent'."

(b) EFFECTIVE DATE.—The amendment made by this section shall apply to amounts paid or incurred after the date of the enactment of this Act and before January 1, 2010, except that amounts paid or incurred before such date shall be taken into account for determining base period research expenses.

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Testimony of Wm. L. Dickinson

before the

House Ways and Means Committee

March 6, 1990

I commend the distinguished Senator from New Mexico for introducing this measure. His legislation is an excellent approach for assisting state and local governments in building infrastructure to improve the environment - solid and hazardous waste disposal systems, water supply systems, sewage treatment facilities, and investments needed to meet EPA requirements. I would like to bring its companion bill on the House side to your attention as well -- the Environmental Infrastructure Act of 1990 (HR 4100) introduced on February 26, 1990.

This legislation will encourage investment in infrastructure which enhances our environment by creating a new category of tax-exempt bond, (an infrastructure bond), which would be an obligation issued by a state or local government used to finance any of five types of public investment: wastewater treatment; solid waste disposal; hazardous waste disposal; public water supply, and; facilities required for a public agency to achieve compliance with regulations issued by the EPA. Improving America's infrastructure requires removal of unwarranted limits on the ability of state and local governments to help themselves through tax-exempt financing.

Without private sector participation, state and local governments will have to continue to rely on traditional financing mechanisms that are quickly eroding - general & dedicated revenues, short-term borrowing, special assessments, and bonded indebtedness. If the private sector is to enter the picture, the tax laws must allow a facility to generate an adequate return on investment. We must make non-Federal investments in public works more attractive, not more cumbersome and costly.

The Environmental Infrastructure Act of 1990 is but one step forward in a comprehensive program to meet America's infrastructure needs. This bill will make public works improvements less costly as investments, both to local government and to the private sector. We should build upon that policy, and create alternative sites for the existing environmental infrastructure that is already overburdened.

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Mr. DOWNEY. I would just tell the members that if they could ask questions quickly of Senator Domenici, he is on a time schedule, and Secretary Graetz is waiting.

Mr. Archer.

Mr. ARCHER. Senator, thank you for a superb presentation to this committee. I think you have presented us some suggestions which deserve a very constructive examination by this committee.

Actually, there is even more of a tie between your two recommendations than perhaps might meet the eye. We already are straining the infrastructure for the handling of imported oil into the United States today. We only have a limited number of sea lanes and a limited facility for handling the volume of overseas oil which is increasing every single month. And the result of that is much greater risk for more oilspills.

If in fact we do not produce more oil domestically and obviate the need for more imported oil, we will have to spend billions of dollars on additional infrastructure just to handle the volume of imported oil. So your proposals make tremendous sense. In a way, they tie together because if we can eliminate the need for more infrastructure to handle imported oil, we will have more capital to do other infrastructure improvements.

I want to thank you greatly for your presentation today.

Senator DOMENICI. Thank you very much, Representative Archer.

Mr. DOWNEY. Mr. Pickle.

Mr. PICKLE. Mr. Chairman, thank you very much.

Senator, I am delighted that you came and made this presentation. I don't think there's a person in the United States that will deny that there are proven domestic oil supplies in the ground. We've got some 300 billion barrels. I don't think you will find any reputable person in the United States as an environmentalist who will not say this is by far a better way to get our resources than by risking oil tanker spills from imports.

Many people contend that our practice of bringing in 55 percent of our oil from foreign sources is a good thing. It doesn't make sense, and we will be dependent entirely on it if we are not prudent. So we need to do something. Nobody will disagree with it, I don't guess. Do you know anybody in the United States that would disagree with those facts?

The question is how do we recover our known reserves? Well, you've got to give some kind of incentives. Now, our problem, Senator, is not that anybody disputes these facts. They are just stark, real facts. Our problem is that some members just won't increase any incentives for the oil and gas industry, or the energy people. It's a real problem for us and I don't know how we're going to get around that.

The contention can be that we ought to let industry do this. But you've got to have some kind of incentive to get oil out of the ground because it is expensive.

Now, I ask you one question. I understand that you have given some consideration to making this a sort of a reinvestment bill. That is, if you get these credits, you've got to put dollars back into the ground and try to continue that type of progress.

Have you thought about changing your bill to that extent?

Senator DOMENICI. Representative Pickle, we have. And as a matter of fact, we are in the process of doing that. And since you have been working with us on this, we will get it to you.

We have to try it on with the Department of Energy and the tax people and a few others to make sure that, in fact, it will work. But our thought would be exactly as you have stated it.

The availability of the capital to do it is one thing. You then produce oil. The oil is sold. We think it might be enough of an incentive to make certain that the capital is reinvested in enhanced oil recovery projects.

We also are thinking of amending our bill so we don't catch any projects in the pipeline, Representative Pickle. There are some in the pipeline. I'm talking about new projects.

If we do that, it would give you an easier package to pass because we would be talking about less money.

But let me also suggest this. For those who do not want to build any incentives into this type activity, there is no easy solution to America's energy problem. The point I made about this being a time-sensitive asset means we cannot wait around for 5 or 10 years and say the market price will be high enough for secondary recovery.

We may have lost half or two-thirds of this gigantic, already owned but not producible reserve. So we have to convince some people that it's not a good American policy to throw that oil away, waiting around for 10 or 15 years until the price of oil is right, and industry can muster the capital because of the price.

We have to do something now. The cost benefits are enormous.

Mr. PICKLE. Well, Senator, I thank you for your testimony. I know you're on a tight schedule, but what you are presenting is terribly important to the American people. We ought to try to look at it positively and move it forward because it makes sense from almost every measurement.

I thank you for your leadership, and I sure will be working with your side.

Mr. GIBBONS [presiding]. Mr. Cardin and then Mr. Schulze.

Mr. CARDIN. Thank you, Mr. Chairman. I'll be very brief.

I just want to compliment you for your testimony, Senator. I spent the weekend talking with State treasurers about the problems they are having with trying to move forward on environmental issues because of the restrictions placed on taxes and financing. Because of this, I particularly appreciate that aspect.

Clearly the importance of making this Nation more self-sufficient in the production of oil is extremely important to all regions of our country, whether we come from an oil-producing State or not.

So, Mr. Chairman, I just really wanted to compliment the Senator for being here today and taking the leadership on these very important issues.

Mr. GIBBONS. Thank you, Mr. Cardin.

Mr. Schulze.

Mr. SCHULZE. Thank you, Mr. Chairman.

I, too, want to join in complimenting the Senator for taking the time to give us a very cogent presentation.

Senator DOMENICI. Thank you very much.

Mr. GIBBONS. Mr. Stark.

Mr. STARK. I have no comments.
Mr. GIBBONS. Mrs. Kennelly.
Mrs. KENNELLY. No comments.
Mr. GIBBONS. Mr. Sundquist.
Mr. SUNDQUIST. Thank you. No comments.
Mr. GIBBONS. Mr. Thomas.
Mr. THOMAS. Thank you very much, Mr. Chairman.

Thank you very much, Senator. My congressional district produces more oil than the State of Oklahoma, and much of it is in secondary recovery.

The idea of adding incentives to produce more than what would otherwise be produced, and especially in a time sensitive way to continue production that would otherwise be canceled, is an enlightened view of how the industry currently works. It is a view not shared by a lot of people.

It might interest you to know that I am now battling with IRS over the definition of tar sands relative to enhanced recovery methods under the Crude Oil Windfall Profits Tax Act. They are arguing that to pay various producers the $100 or $200 million that may be involved in the definition is something that we can't afford to do. And, of course, I am quite sure you would join me in trying to explain to them that the billions of barrels of oil, and I literally mean billions of barrels of oil, that would not otherwise be produced, isn't exactly a very sound argument from an economic point of view.

Second, a factor that is not usually figured into in how much we're going to save, from again a dollars-and-cents point of view, is the argument that is very prevalent in my district, which has coastline—a very sensitive California coastline. We are either going to produce where we already have an infrastructure for producing oil. We are going to bring it in with all of the jeopardies that drilling involves, or we are going to eventually have to find other areas. And, of course, we continue to have a political battle on whether or not we drill offshore.

I would think that some enlightened folk who want to protect the coastline would also support incentives which would ensure that we produced the maximum amount of oil where we already have the infrastructure and where people are economically attuned to producing the oil.

I urge you to continue the work that you are doing. I want to support you in any way we can. But we have to get people to understand that there are no silver bullets, that the other alternate energy sources are simply not going to be adequate, and that every day we fail to create an economic situation which will maximize our ability to produce that oil.

We are in fact allowing oil to be left in the ground which will never be recovered.

I thank you very much for your efforts and wish you all the luck in the world.

Senator DOMENICI. Mr. Chairman, I was just going to say that had you not spoken up on this issue—I was hoping that you would, and you meet my expectation with your knowledge in this area.

A State like California, which is besieged with the issues of bringing in imported oil—and we are going to have to import—I

don't think anybody should think this bill, the Domenici-Pickle approach, is going to stop that need. But, essentially, for every million barrels we produce through enhanced recovery, clearly we will import a million barrels less.

Your State is a tremendous source of enhanced oil potential. They are doing some already because they picked the most economic. But they are still leaving huge amounts in the ground. I don't remember the number, but it is hundreds of millions of barrels in California that would become real reserves under this bill, oil that otherwise is very unlikely to become a part of the American inventory.

Mr. THOMAS. That's correct.

Thank you very much.

Mr. GIBBONS. Mr. Anthony.

Mr. ANTHONY. Thank you, Mr. Chairman.

Pete, welcome to the committee, and thank you for mentioning the work that I have done through the Anthony Commission on Public Financing.

You are right on target as far as doing something about infrastructure. Just to quickly give you three additional facts, and then I want to bring your attention to section 3 of your bill.

We have passed an awful lot of laws giving State and local governments the responsibility of cleaning up the air and the water. And we have taken 37 percent of their funding away from them over the last 10 years. That's not in inflated terms, that's in real terms.

And the United States ranks 55th in the world in infrastructure investment.

EPA tells us that there are approximately 400 cities that are in noncompliance right now with their secondary wastewater treatment facilities. They don't have the money to do it. We are not giving them the money, yet we are mandating the services.

I think there's a perfect opportunity to use the Tax Code in a very straightforward and positive way, so your bill with Senator Boren on infrastructure bonds, I think, is moving in the right direction. And I think it makes good public policy sense to do that.

Under your section 3, talking about arbitrage rebate, in 1989 I was able to get an amendment offered by Treasury that passed Ways and Means, passed the House and the Senate and was signed into law, that stretches that 6 months out to 2 years.

I wish you would work with me this year and try to make it retroactive to give those existent facilities some relief. And then I think on the margin there may even be some additional things that we could do on arbitrage rebate to even make it more workable.

But without question, I think you are moving in the right direction, and I look forward to working with you so that we can make the decade of the nineties the decade of investment in infrastructure.

And I thank you for your contribution.

Mr. GIBBONS. Thank you.

Mr. Moody.

Mr. MOODY. Thank you, Mr. Chairman. Senator, I appreciate your being here.

I would like to return to the first part of your proposal: enlarging tax free borrowing for infrastructure purposes. You referred to the restrictions that were placed earlier in the tax. What do you mean the 1986 cap on tax free borrowing for quasi-public purposes, including some of that borrowing in the AMT, or both?

Senator DOMENICI. Both.

Mr. MOODY. OK. Who would benefit if the cap lifted? Would you take away the quasi-public purpose limits on local borrowing so that anything that was environmental, for example, would be eligible for tax free buying?

Senator DOMENICI. Yes, sir.

Mr. MOODY. Some things now fall into the quasi-public category and are not actually public.

Senator DOMENICI. Yes, sir.

Mr. MOODY. And you would change the AMT law?

Senator DOMENICI. Yes.

Mr. MOODY. You don't have a tax estimate for those changes? Do you have a revenue loss estimate for those changes?

Senator DOMENICI. I believe that our revenue loss, which I gave you of roughly $350 to $400 million a year, covers it all.

Mr. MOODY. That would be it. OK. Thank you.

Tax subsidies cost a lot more than the benefits received because of the wedge between the interest cost spread and the benefit to the lender, why don't we simply spend $300 to $400 million, or maybe more, on the spending side? That way we get to review it annually to see if it makes sense. And you know it's tough to review tax preferences because they tend to linger.

Senator DOMENICI. Frankly, Representative Moody, in my opening remarks I said, I truly meant and have thought through, that we are going to have to do both.

When you look at the United States, we were spending about 2.3 to 2.4 percent of our gross national product for infrastructure in 1960. Comparisons with gross national product are not always relevant. But in this case, if there is a relevancy, we are down to 1 percent. So the disparity is enormous.

And that is not justified because we are living in a changing time. If anything, the infrastructure needs are more severe and more costly, especially since we're committed to doing things in a clean manner and cleaning up some of the past.

So I believe we are going to have to do both.

Representative Anthony made a point that I would like to use in response to your observation. If you meet with any of the municipal leaders who are in town now, they consider the U.S. Government—I regret to say but I think this is true—almost irrelevant with reference to aid.

Mr. MOODY. With reference to what? I'm sorry.

Senator DOMENICI. Aid.

Mr. GIBBONS. Help.

Senator DOMENICI. They're saying you just about got rid of all of that aid. I don't know whether our aid was right or wrong. But then the Federal Government put all kinds of regulations and demands on us, and we, the cities, don't have any way to meet them.

It seems to me issuing tax-exempt infrastructure environmental bonds is at least a recognition that we are telling them: You meet

some standards and we've given you a tool. The tool would be not all-encompassing, but it would apply to a rather significant part of the inventory of mandates, and make them more reasonable to accomplish.

I would also say this: If it's not working in 4 or 5 years—and I am not one who thinks we ought to change the Tax Code every year, as we've been prone to do—I don't see any reason why we couldn't change it back.

Mr. MOODY. Well, the reason I raise it is that studies have shown that tax borrowing as a subsidy only yields about half the benefit compared to the cost. And so with the budget being in the straits it's in, to spend $300 million, $400 million—in fact, I think you said in your earlier testimony you felt that was low, you might get twice the bang for the buck if we do it through the spending side of the budget.

Why not just take it on head on and spend it, and meet our obligations. Go back to what we used to do by meeting them through the front door of the budget rather than through the back door of the Tax Code? Why don't we just commit ourselves to doing that, particularly if we scale down our obligations in military and other areas?

Senator DOMENICI. Well, I'm aware of the studies that revealed that these tax expenditure items might not be as cost effective as direct funding. But let me submit to you, without any claim to expertise, that I am not at all sure that would apply to the way the United States funds programs of this type.

I think that we have such a propensity to put regulations on, complicating the grants and making them difficult, that I'm not sure that you would get as much bang for the buck by putting $300 million a year in infrastructure grants as you would on the tax side.

Mr. MOODY. Thank you very much.

Mr. GIBBONS. Senator, I may end up voting for your proposals but I've some questions.

One, on your oil recovery. Why don't we let the market do it. You're talking about 1 cent a gallon.

Senator DOMENICI. Why don't we what?

Mr. GIBBONS. Let the market pay the cost for getting this oil out. We're talking about 1 cent a gallon.

Senator DOMENICI. Let me say I welcome the question. Frankly, in 17 years in the U.S. Senate, I've grown more reliant upon the marketplace than I was when I came here, or when I had been here 5 years. My admiration for it, as a producer of goods and services at the right price, is growing with each year.

But let me say, Representative Gibbons, we are talking about an oil resource that is literally diminishing quickly because of abandonment. That's a marketplace phenomenon, too.

We do not have the luxury of waiting until the price of oil, which is your suggestion, reaches a point that justifies the very large capital investment in these projects. The reason we get such a return under my bill is because we are permitting the formation of capital and investing it in these fields, which wouldn't otherwise occur.

Mr. GIBBONS. I've one other question in that area.

What is going to happen to this oil in 10 years? It will still be there, won't it?

Senator DOMENICI. Two things will happen. Those wells that have not been abandoned will be there. Those that have been abandoned by well closure is not recoverable. It will be lost.

Mr. GIBBONS. I don't understand that much about geology.

Senator DOMENICI. Well, the oil hasn't gone up into the sky. It just will not be recoverable without drilling new wells for the mere purpose of capturing secondary oil. The oil won't come out of that well. You're going to have to do this anyway. The cost will just push the scale up higher and higher——

Mr. GIBBONS. You're talking about the collapse of the casing and things of that sort in the well?

Senator DOMENICI. That's correct.

Mr. GIBBONS. Would happen in 10 years?

Mr. THOMAS. Would the chairman yield briefly on that?

Mr. GIBBONS. Yes. Sure.

Mr. THOMAS. Part of the problem, Mr. Chairman, is that much of this oil which can be counted as recoverable is actually oil which requires a secondary or so-called tertiary recovery. What is often done is that the initial oil which comes up from the well heats boilers in situ and natural gas is preferred. But what you do is you literally inject steam or other chemicals to heat the oil so to achieve the specific gravity which will allow the oil to flow and come up. It's in various strata sands.

As you heat it, you create a process of removing it, attracting it toward the removal point. If you quit heating it, you lose the pressure structure which allows you to recover the oil.

If you go back in and try to reheat it, it's like losing the suction on the vacuum and you cannot create the same situation to produce that 25 or 30 percent of oil which is left. It is literally lost until we develop some radically new kind of technology. And for the foreseeable future, that oil will be lost.

The ability to recover oil through the secondary methods is greatly dependent upon the price of oil. And if it goes higher, you can afford this additional enhancement to get it out. Alternatively, you can create incentives to continue to recover that kind of oil, giving producers a favorable tax structure treatment. You also can create a situation where the marketplace itself by way of taxes on gasoline can command high prices.

But if you shut this oil in, don't assume that an incentive created later will allow you to go back and get it. It is not a pantry with the oil sitting on the shelf. It is a very tenuous recovery process which when stopped, loses the rest of the oil.

Thank you very much.

Mr. GIBBONS. Thank you for that——

Senator DOMENICI. Representative Gibbons, I failed to mention one thing, because I know you want to get on with things.

Mr. GIBBONS. That's all right.

Senator DOMENICI. But when the bill and the detailed statement are reviewed by you and your people, you will find that I am cognizant of the fact that if in 8 or 9 years the price of oil is right, we phase out or eliminate this.

But I'm worried about the next 8, 10, or 12 years when we're losing the potential of this reserve, where we could recover it and make it a real reserve at a very low cost, especially when every barrel is going to be imported if we don't incrementally produce this way.

Mr. GIBBONS. Well, those are very good answers.

Let me ask you one about your other proposal of exempting infrastructure bonds.

I like infrastructure bonds. I think that's what, you know, the tax-exempt bond market should have been in. If we just exempt those bonds though, we will increase the total amount of demand on that pool of funds that will flow in the tax-exempt bonds, increase the interest rates.

Wouldn't it be better if we just set a priority within the ceiling and give these the first priority rather than increasing the total demand on the pool? You would get lower rates and you would get the job done.

Senator DOMENICI. Well, I try to learn the subject matter when I appear before people as knowledgeable as you. But I will confess that I can't really answer that because I am not familiar enough with the current priority lists. But I can say it's quite obvious that whatever the current priority list is, within the cap, those priorities must be very significant in this country. And so I don't know that you could do that.

Mr. GIBBONS. We really don't have any priority list.

Mr. ANTHONY. Would the gentleman yield?

Mr. GIBBONS. Yes.

Mr. ANTHONY. Part of the answer to that question is the fact that school boards utilize the greatest percentage of bonds.

Mr. GIBBONS. Well, they're part of the infrastructure, yes.

Mr. ANTHONY. It's part of the infrastructure. But it's not part of this particular bill. So if you tried to put these above the others, I feel sure you would have some school board members come forward and would ask a little bit about what happening there, because they are using over 50 percent of the bonds that are being issued at the moment. And we obviously have to consider education as one of our top priorities.

Mr. GIBBONS. Well, those are usually general obligation bonds, those school board bonds. And they usually are not in the cap anyway, as I understand it. But we can go on to that. But I just throw that out as something to ponder.

And we thank you very much for coming over here. As always, your testimony is illuminating.

Senator DOMENICI. Thank you very much.

Mr. GIBBONS. Thank you very much.

Mr. Secretary, would you resume the stand and we'll go to questioning now of the Secretary.

Mr. Stark.

Mr. STARK. Thank you, Mr. Chairman.

I would like to welcome Professor Graetz to the stand. Well, first of all, I can't resist. The last time I think the professor was here, he forthrightly informed the committee that he was paid by the insurance companies on behalf of whom he was testifying. And today

he is obviously paid by the administration. And he serves his clients and advocacy well.

And perhaps you could explain what seems to me at least confusing. You support clean air legislation, as you say in your testimony. But you want to implement that only on a market basis and not with taxes, is that a fair statement?

TESTIMONY OF MICHAEL J. GRAETZ, DEPUTY ASSISTANT SECRETARY OF THE TREASURY FOR TAX POLICY (RESUMED)

Mr. GRAETZ. Mr. Stark, we believe that the trading allowance mechanisms that are in the——

Mr. STARK. I just asked—I mean you're not interested in taxes as a way to enforce conservation? You would rather do it with market forces, is that correct?

Mr. GRAETZ. Well, in general, yes.

Mr. STARK. OK. But, on the other hand, because that would raise the tax, OK, and I mean the theory would be that raising the tax would change some corporate behavior as market forces might also?

Mr. GRAETZ. There are similarities.

Mr. STARK. Now, you support the research and development tax credit, do you not?

Mr. GRAETZ. Yes, we do.

Mr. STARK. OK. To change corporate behavior, correct?

Mr. GRAETZ. Yes, we do.

Mr. STARK. OK. So I find that when we have some evidence that the DuPont Corp., for example, has cut their CFC production maybe about half, or they intend to very soon, as a result, they state, of an increased tax. So we have some evidence that raising the tax and/or lowering the tax will change corporate behavior, why would you not be willing to consider that at least partially as a way to help in environmental issues? Instead of relying entirely on market forces, why not use some tax changes to effect behavior?

Mr. GRAETZ. Mr. Stark, we are not unalterably opposed to using user fees to change behavior.

Mr. STARK. OK. Let's call it user fees because you and I can come closer together with that.

Mr. GRAETZ. When we regard them as appropriate. However, in the context that is currently before the committee—the issue of trading allowances for sulfur dioxide and nitrogen oxide emissions—we simply think that the trading allowance mechanism is a better mechanism. And I would be happy to explain why we think so.

Mr. STARK. But in the sense of emission taxes or taxes to cut down old trees, or that sort of thing, user fees or severance fees, you're suggesting that perhaps the administration is flexible?

Mr. GRAETZ. Well, we think there are limited circumstances in which the tax system should be used. Perhaps it would be worth mentioning a few general guidelines along those lines because most of the proposals that we've seen in the call for this hearing involve circumstances that do not meet these criteria.

The first criteria is that the issue involve an area where national rather than local standards are appropriate. Many of the tailpipe

emission kinds of problems, for example, that are addressed today are better solved by policies where you can vary by locality.

Second, we think it is important in designing a tax that you have enough information to be confident that you can set the tax rate at the appropriate amount to achieve the goals that you desire.

Third, we are inclined to think about using user charges when the amount of the effective fee is relatively small on inputs so that the tax does not create widespread burdens either on the public or on the economy as a whole.

Finally, we are often concerned about the administrability and collectability of many of the tax proposals. Those are the general guidelines we've used in evaluating the specific items before the committee today.

Mr. STARK. Thank you. One further thing, Professor Graetz.

I have always been a great proponent of academic freedom and really have supported recently the professors at the Academy—at the Naval Academy—who resigned rather than change grades.

But I have always felt too that professors who were often harsh, with I'm sure good reason, could change their grades. And I know that back several years ago you graded some Members of Congress. One who happens to be a great friend of this committee was graded as I guess you could say being unambitious, and perhaps having not much acquaintance with the substantive part of tax law.

I wonder if you would like an opportunity this morning to reconsider your grade for that particular Member of Congress, or any of the rest of us who you may have commented on in the past, and have you had any chance to rethink what you said to your students in your textbook back in 1988?

Mr. GRAETZ. Mr. Stark, I have had opportunities to rethink many of the things I've said over the years. And I can just say generally that many of them are not correct.

Mr. STARK. But you didn't want to particularly reconsider the grading of one of our colleagues?

Mr. GRAETZ. That particular grade, I think, was an error.

Mr. STARK. Well, I think that you are a very kind person and I would agree with you. And I thank you for recognizing that. Thank you very much.

Mr. GIBBONS. Thank you, Mr. Stark.

Mr. Thomas.

Mr. THOMAS. Thank you, Mr. Chairman. I'll leave the grades to somebody else.

Let's talk oil for a little while and the administration's position on incentives that the Senator was discussing earlier.

I fully support the incentives package that the administration has offered. In testimony, I think your position is that instead of looking at alternatives to the President's package, you're satisfied with the President's package now.

My general question is a hypothetical one. It requires you to assume that the President's incentive package isn't going to pass.

Aside from those contained in the President's package, could the administration support any other incentives other than the President's package? Does the administration prefer existing incentives, for example, section 29, which would produce a desirable result

through the continuation of fossil fuels production? Does the administration favor a stimulus into new and novel areas?

The point being if we don't continue some of the things we have, if we don't provide a window for certain things to occur, if we don't get definitions accepted—and I'll elaborate on that, in terms of the battle between the IRS and the Department of Energy on tar sands—we are going to lose production we already have.

Is the administration's purpose in the tax incentive area to simply stimulate new and novel technology, or do you think it's useful to hang on to that which we have?

Mr. GRAETZ. Mr. Thomas, you've asked two questions. The administration is concerned about encouraging the development of marginal properties along the lines that you and Mr. Domenici discussed earlier. There are proposals in the President's budget that would do that.

With respect to the first question, we did not recommend the extension of section 29 because we did not believe it was the best use of scarce budget resources. On the other hand, that particular issue is being examined by the Energy Department and other agencies of the Government. And if it is concluded that that is a better use of resources than some of the alternatives in the budget, we certainly would be willing to consider it.

Mr. THOMAS. And if the better use of resources don't have a chance of passage, are you willing to examine less better uses of resources to continue current production or to stimulate production if your choices are not allowed to be the choices?

Mr. GRAETZ. Well, Mr. Thomas, I'm not sure how far down the road, toward the less better I'm prepared to go at the moment.

We really are hoping that we can use the scarce budget dollars on both the set tax side and on the expenditure side for the best possible purposes. And we are committed to trying to work that out.

Mr. THOMAS. I would invite your attention, and I have others who are trying to focus on it, to the battle going on inside your administration over a definition of tar sands.

The Internal Revenue Service uses a definition which defines tar sands by the method in which they are extracted rather than by a definition which determines the properties themselves.

In the early 1980's, you might imagine that that caused real difficulties. The Department of Energy, through its symposium with various industry folk, came up with a definition which defines the properties or qualities of product.

As you might imagine, the battle between techniques and the properties of tar sands hinges in large part on the fact that one definition produces a certain taxable result. Another definition produces a different taxable result. And that in using the property's definition, it's probably going to result in some foregone tax revenues.

It seems to me that somebody somewhere has to look at the larger picture, that is there may be some tax revenues that are generated by virtue for a technology or a methods of removal definition of tar sands. But, in the long run, it is really shortsighted policy to hang on to current pennies and risk the loss, not only of future dollars but future natural resources to a definition which is

virtually impossible to implement. That is, you define the product by the technique of removal rather than the properties of the product itself.

I will get some more materials to you. But these are the kinds of battles going on administratively that are going to cost us real resources.

Mr. GRAETZ. Thank you, Mr. Thomas. I would say that we are also going to study that issue in terms of which definition would better serve in the long run.

There is some concern, however, that to the extent that expenditures have already been made without reliance on the tax credit, that we should be cautious in going back and reassessing that definition in a way that would simply cost revenues without producing the kind of future benefits that you are suggesting might be available over the long term.

Mr. THOMAS. I totally agree with you. And in coming up with a resolution, I think it's entirely possible to get a clear definition and not have to deal with a reach back or a historical argument. It is probably appropriate to deal with a prospective definition for oil that is yet to be produced.

Mr. GRAETZ. Well, we will certainly take a look at that.

Mr. THOMAS. Thank you.

Mr. GIBBONS. Let's see. Mr. Anthony.

Mr. ANTHONY. Thank you, Mr. Chairman

On page 7 of your testimony, section E which talks about the Federal tax system can encourage the production of alternative fuels. And contained therein is the section on alcohol fuel blends.

Mr. GRAETZ. Yes.

Mr. ANTHONY. I notice at the bottom where it says administration's position, that you basically say we'll postpone a decision until closer to the timetable in which that tax expires.

Does the administration not have a position today as to whether or not that is an effective tax subsidy and whether or not it should remain in the Tax Code?

Mr. GRAETZ. We are examining that. We have not proposed the extension of that tax credit in the budget. So the budget does not account for that tax credit to be extended.

On the other hand, we are in the process of an interagency review to determine whether it is an effective use of the budget resources.

Mr. ANTHONY. In terms of your review, will you make an examination as to how broadly distributed the tax subsidy is in terms of how many in the industry receive benefit from it? I mean what are you reviewing?

Mr. GRAETZ. There is an interagency review that is going to study this matter. And I am sure they will take that part of it into account.

Mr. ANTHONY. Well, there are two things I wish you would ask that interagency group to look at.

One would be the number of producers that actually draw the subsidy and the amount of the subsidy that they draw to determine how broadly distributed the subsidy is to those producers, and the amount that is paid from the Treasury to those producers. I think that would be something that this committee would need to know

when we do get down to the timetable to determine whether or not it should be expanded.

And also, as you well know, we've had in this committee several fights legislatively over what to do with imports from our Caribbean neighbors in this particular area. And that has been a very nasty legislative struggle with some of the domestic producers trying to force them out. There have been some amendments and compromises made. And then there were compromises that had to be made to the compromises. And at the moment we are still living under a compromise. I don't know how workable it is.

But I wish you would also take a look at that particular area.

On page 11, you talk about credits for solar wind and geothermal property. There you do take a position, and you question whether or not they are effective. I take it that you are recommending that this committee not reinstate them?

Mr. GRAETZ. Our current recommendation is that they not be extended.

Mr. ANTHONY. That they not be extended. And in that case have you had opportunity to examine them to make that decision as of this time versus not having had the opportunity to study the alternative fuels? What's the difference?

Mr. GRAETZ. Mr. Anthony, the timetable is quite different. The alternative fuel credit stays in effect until the end of 1992. This credit expires at the end of this year. So there is more time to gain experience under section 46.

Mr. ANTHONY. So it has nothing to do with a national energy policy? It just has to do with artificial timetables that are put in the code?

Mr. GRAETZ. Well, no, that's not exactly correct.

Mr. ANTHONY. Well, that's just what you said there.

Mr. GRAETZ. If I said that, I didn't mean to say that. What I meant to say was that the pressure is more immediate on the section 46 credit than it is on the section 40 credit.

Both of these provisions are being studied as part of the national energy strategy. And we are going to take another look at them in the course of that study to determine the effectiveness of these proposals in comparison to other budgetary alternatives.

Mr. ANTHONY. Well, it's estimated that this committee may be directed from the Budget Committee to raise $13.9 billion as kind of a behind the scenes current thinking right now.

What if somebody offered an amendment to expedite the expiration date on alternative fuels from 1992 and 1993 to the end of 1990? Would that not force the administration to come up with both a monetary reason and a policy reason to either be for or against?

Mr. GRAETZ. Such a proposal would accelerate our thinking.

Mr. ANTHONY. Well, I think maybe you had better start thinking about it because it's likely to be offered.

On page 12, my last question, it talks about the desirability of Exxon's tax on certain outdoor recreational equipment. I just want a clarification on the administration's position.

Presently there is a tax imposed on firearms and ammunition, sportfishing equipment, and bows and arrows, but not a tax on other outdoor recreational equipment.

Your statement says that you do not recommend imposition of such a tax on recreational equipment. I just want a clarification. Does that mean on firearms and ammunition?

Mr. GRAETZ. No. We did not recommend a change in the current excise taxes.

Mr. ANTHONY. You just did not——

Mr. GRAETZ. Nor do we recommend any new ones.

Mr. ANTHONY. You just didn't want it expanded?

Mr. GRAETZ. Correct.

Mr. ANTHONY. To other recreational equipment.

Mr. GRAETZ. Correct.

Mr. ANTHONY. But no position on the current tax that is imposed on firearms and ammunition, sportfishing equipment and bows and arrows.

Mr. GRAETZ. We recommend no change in that.

Mr. ANTHONY. You recommend no change there.

Thank you. I yield back my time.

Mr. GIBBONS. Mr. Pease.

Mr. PEASE. Thank you, Mr. Chairman, and thank you, Mr. Secretary, for your testimony.

I want to ask you about tradable permits that you mention in your testimony.

The administration is in favor, according to your testimony, of a system of tradable permits rather than a system of emissions' taxes.

Would these permits, as you envision them, be periodically auctioned off or otherwise sold by the Federal Government so that revenue might ensue? Or how would you envision distributing these permits?

Mr. GRAETZ. The current version of the Clean Air Act and the administration's proposals do not recommend auctioning of these permits.

Mr. PEASE. How would persons qualify to get the permits?

Mr. GRAETZ. The permits are allocated in accordance with energy production and emissions at the current levels. I am sure the person from the EPA who will testify today can give you more detail about the precise provisions of the Clean Air Act in terms of how they are allocated across utilities.

Mr. PEASE. These permits certainly will have considerable value to those who hold them.

What are your thoughts about the possibility of auctioning them off and, in the process, helping reduce the Federal deficit?

Mr. GRAETZ. Mr. Pease, the people who are going to receive emissions permits under the Clean Air Act are the same people who are going to have to incur costs to reduce sulfur oxides and nitrogen oxides emissions. We feel that these people are not in general going to be receiving windfall benefits, but rather are going to be suffering the cost of cleanup. So the auction mechanism was not one that we endorsed.

Mr. PEASE. All right. Thank you.

I would like to turn to your administration's reforestation efforts. You mention that in your testimony as well. Recognizing that your expertise is not in reforestation, do you happen to know whether the plan is to plant a billion trees and put part of those into tree

farms—that is, for commercial forestation—or is the administration thinking of trees not put into commercial use?

Mr. GRAETZ. As I understand it, and I am not an expert, the idea is to plant a billion trees a year on private land throughout the United States. I am not familiar with the details of that expenditure program.

Mr. PEASE. Mr. Stark, a few minutes ago, gave you an opportunity to review some of your previous statements about members of this committee. I don't want to pursue that. But I would observe that this is often referred to as the Reagan-Bush administration as if it were a continuum.

You were citing statistics in your testimony about the amount of carbon dioxide that could be removed from the air by these billion trees and so on.

As I recall, a former high ranking member of the Reagan-Bush administration used to advance the theory that trees caused pollution.

Is this new proposal a change of position on the part of the Reagan-Bush administration?

Mr. GRAETZ. I don't think that I need to grade either members of this committee or members of either the current administration or the prior administration any more. It is one of the great advantages of leaving the professorial ranks to serve the Government.

Mr. PEASE. Very diplomatically expressed.

Thank you, sir.

Mr. GIBBONS. Mr. Moody.

Mr. MOODY. Thank you, Mr. Chairman.

I appreciate your testimony.

You like market solutions by using effluent charges or pollution charges, or whatever charges because they allow you to internalize the economic calculus for the decisionmaker, and that is obviously its chief advantage.

I assume by the ability to resell air pollution rights, you look at it that way pretty much philosophically.

Mr. GRAETZ. The purpose of the trading permit provisions is to make sure that the pollution reduction that the country needs is achieved at the lowest cost and, therefore, imposes the least burden to the U.S. economy. That is why we have supported that approach.

Mr. MOODY. Right. It allows the polluter to internalize the problem and, therefore, make the optimizing decisions based on his own or her own technology, and so forth.

It seems to me the same philosophy should be applied to transportation-related pollution charges where the market doesn't completely capture the social effects of the actors' behavior. I refer specifically to the national goal of reducing congestion, reducing air pollution by autos, and also for the large social goal that isn't totally captured in the market of energy self-sufficiency.

Why would the current level of gasoline taxes be just the right level for that when we are, in fact, also subsidizing people to take buses. We have a mass transit budgetary item. We are subsidizing people to use cars in a variety of ways.

Why wouldn't we want to consider doing what a number of European countries do, that is to recognize the social cost of gasoline is

far higher than the market, the cost of production cost, and add substantial excise taxes to encourage energy self-sufficiency, to encourage carpooling further, to encourage mass transit, and economize on motor fuel and, therefore, on congestion and air pollution?

Why are we right at the right level to achieve those goals?

Mr. GRAETZ. Mr. Moody, we did not in our statement mean to suggest that the gasoline tax was at the perfect level for particular environmental goals. It is simply our view that, in order to use a gasoline tax to effectuate further reductions in air pollution, you would necessarily be talking about a significant increase in the gas tax. We do not think that a relatively small increase would have much effect on the pollution goals. And a significant increase in the gas tax, we believe, would have adverse effects on the economy, would be regressive and would have regional variations that we are not prepared to endorse.

Mr. MOODY. You have distinguished between short term and long term as people make future purchase plans. We have seen that when the price of gasoline went up, because of external factors, people chose more fuel-efficient cars.

Regarding its impact on the economy, I would point out that the real price of gasoline and that the level of inflation is substantially lower now than it has been in the past.

To just give you a number, gasoline today is 36 percent cheaper at the pump than it was in 1979. There has been a steady decline in gas price, if you adjust for inflation.

So gas is probably virtually at its cheapest ever in America. Even a minor disruption, like the Valdez oilspill, send gas prices up more in a few months than anybody is suggesting with taxes.

Why wouldn't it be appropriate to consider some increase in the fuel tax, particularly if we earmark some of it for—most of it for infrastructure since we have this huge infrastructure funding problem that's looming. A recent CBO study states that by the year 2000 we are going to need $200 billion in infrastructure.

Why wouldn't the gasoline tax be an appropriate subject for revisiting at this time with our fuel [illegible] non-self-sufficiency growing by the day?

Mr. GRAETZ. Mr. Moody, there are many suggestions that have been made. Our position is that tailpipe emission regulation is a more effective way to address the pollution problem than the gasoline tax that you are suggesting, and we simply do not believe that an increase in the gasoline tax is appropriate at this time.

Mr. MOODY. I recognize that you don't believe it, I'm asking for arguments behind the belief. I mentioned three or four goals, not just tailpipe emissions: congestion, oil self-sufficiency, and a variety of other things, where the social cost of the automobile travel is greater than the private cost.

Mr. GRAETZ. Well, the congestion problem, Mr. Moody, is one that varies among localities, and a national gas tax is a very blunt instrument to deal with congestion problems. We are also concerned about the effects of an increase in the gas tax, both distributionally and across regions, and so we are not endorsing such a proposal.

Mr. MOODY. Thank you, Mr. Graetz, let's go to Mr. Dorgan next, and come back to you.

Mr. DORGAN. Thank you, Mr. Chairman.

Mr. Graetz, I'd like to ask a couple of questions about taxes versus fees. The President's admonition, "read my lips, no new taxes," did not come out, "read my lips, no new fees," so we see recommendations from the administration for increased fees which smell, and act, and look, and taste like taxes, but they are called fees.

Is there a practical or simple definition that you might provide us, so that we can understand where the line on taxes ends, and where the line on fees begins?

Mr. GRAETZ. Well, Mr. Dorgan, I'm tempted to—although I'm tempted to resist it, as well, to refer to Mr. Darman's famous duck quote; we are not interested in ducks in sheep's clothing, or just because it bleats doesn't mean it is not a duck, but I think enough has been said about that.

Our analysis in this area does ask the question whether we can design a fee that we believe would be appropriate to achieving the particular environmental goals, for example, that are before this committee today, and whether the amount of fee is sufficiently small, relative to the price of the product, or the price of the input, that we are not creating widespread burdens on the economy, or on the populace that we do not feel would be appropriate. I do not think, in all seriousness, that there is necessarily a moment at which a bright line can be discerned. I think that these proposals have to be evaluated on their merits, and in accordance with the basic guidance which we have been promoting.

Mr. DORGAN. So when you buy a six-pack of beer, you are paying a tax, not a fee, or would that be a user fee? [Laughter.]

Mr. GRAETZ. I think that when I buy a six-pack of beer, I am paying an excise tax, not a user fee.

Mr. DORGAN. And you are paying an excise tax on a pack of cigarettes?

Mr. GRAETZ. Yes.

Mr. DORGAN. I see. The reason I ask the question is that we are kind of hemmed in down here in Congress by this "read my lips" thing, which was written by a wonderful speech writer. It seems to stick for years, but it does not stick to fees, and we are trying to understand where the line is. You say there is no bright line. If you could provide us as best you can with the definition of where that line is, we will be able to try and understand a little better, then, what the administration will support, and what it won't support, based on its campaign promises.

Let me follow up on a question by Mr. Moody. I come at the gas tax from a little different approach. North Dakotans drive exactly twice as much as New Yorkers, so if someone comes around the bend, and says, "you know, what we should do is, let's reduce the Federal deficit with a healthy gasoline tax," they are saying to North Dakotans, "you pay twice as much per person to reduce the Federal deficit as a New Yorker," because we happen to drive twice as much as New Yorkers.

On the other hand, if someone says our infrastructure is crumbling, and we need an increase in the gasoline tax , that is a whole different issue, as far as I'm concerned. Mr. Moody was asking the question about the administration's position on gasoline taxes, and

I guess you consider the gasoline tax, indeed, a tax? An increase would be a new tax that meets the "read my lips" definition. Do you consider the infrastructure problem—bridges and roads, when you evaluate whether or not we should be looking at a gasoline tax?

Mr. GRAETZ. Yes, Mr. Dorgan. We consider the infrastructure problems seriously, we are concerned about them, and we are anxious to address them.

On the other hand, the gasoline tax is one kind of broad-based excise tax, and we are not supporting increases in broad-based excise taxes. There are, as you have pointed out, regional variations that create inequities in the gasoline tax. There is evidence that the distributional consequences are not necessarily favorable, and we are concerned about the burden on the economy, so we are not in favor of an increase in the gasoline tax.

Mr. DORGAN. Mr. Graetz, in your testimony, you say that the administration's Clean Air Program calls for an alternative fuels program that would encourage development, et cetera. Does the administration support—truly mandated alternative fuels, ethanol-oxygenated fuels, use in the some 80 cities that have not met the clean air standards?

Mr. GRAETZ. With respect to the regulatory issues, there is a colleague of mine from the Environmental Protection Agency who can answer that question in more detail. It is true that the Clean Air Act proposals encourage the use of alternative fuels and require the use of alternative fuels in much of the Government fleet, for example, so there are proposals for advancing the use of alternative fuels in the Clean Air Act legislation that we do support. We are just not in favor of using the tax system at this point for that purpose.

Mr. DORGAN. Thank you, Mr. Chairman.

Mr. GIBBONS. Thank you.

Mr. Guarini.

Mr. GUARINI. I'll pass this time. Thank you, Mr. Chairman.

Mr. GIBBONS. Mr. Moody.

Mr. MOODY. Thank you, Mr. Chairman.

I'd like to return to the gas tax issue. You refer to two basic concerns. One is the effect on the economy. No. 2 is the effect on regressivity.

The CBO has done a very careful study on regressivity of gas taxes. They show that if you measure gas taxes against family expenditure, at all levels from paupers to millionaires, the fact is that the tax is not too regressive. If you measure it against incomes, it looks more regressive, because incomes fluctuate more than family expenditures. Lifetime incomes, obviously, fluctuate less than annual incomes.

This same argument which the administration used on capital gains; namely, that transitory income is not truly a good measure for incidents, should be applied here. If you look at it that way, and measure it against family expenditure, it turns out that the gasoline tax is almost proportional. For $100 of family expenditure, it is virtually constant at all income levels, so I would urge you to look at the CBO study, that shows the regressivity issue is overstated.

You must be willing to make the same conceptual jump when you look at expenditure taxes, generally.

Mr. GRAETZ. Mr. Moody, I really do not want to buy on to CBO distributional judgments, because I think that you will find that their base varies depending on some of the policy recommendations that they would like to make. In general, I do not know of income tax areas, for example, where we have looked at the relationship of taxes to expenditures, rather than income—whether transitory or over a longer period of time—in measuring the distributional consequences. Expenditure taxes are going to be more proportional to expenditures, and that is always true, if you use an expenditure base, you will show a less regressive impact of a tax on spending.

On the other hand, we have not, traditionally, measured distributional consequences in that way, and the capital gains provision is really looking at income over time, and not at expenditures, so I do not think the analogy is exactly——

Mr. MOODY. Well, I raise it because expenditures are a better approximation to income over time. The permanent expenditures track permanent income much more than they do annual income. They are very close, obviously, and so measuring incidence of any tax against long-term income is, I think, appropriate, and it is done for the capital gains calculation, and many other calculations, but one can just as easily, with just as much validity, do it against expenditure. I raise it because CBO did a very careful study using it against long-term expenditures, because that is a more true index of long-term economic well-being than individual annual income, which may fluctuate.

A student has a low-annual income, but his lifetime income is very high. His expenditures probably exceed his income that year, and that's fine. It seems to me that's a very valid way to look at it. If you look at it that way, it turns out the gasoline taxes are not particularly regressive. In fact, they are almost proportional. I want you to look at the CBO study, and we can discuss it at some other time, but I would commend it to you, because it does go to that very issue of how regressive is the gasoline tax.

Mr. GRAETZ. I will be glad to look at it. I do just want to mention, though, that the distribution of capital gains over income over time is more appropriate because the capital gains themselves tend to occur over a longer period of time. There is a real difference there, compared to when one is looking at annual taxes to be paid on that current income.

Mr. MOODY. I'm not looking at that. An ongoing gasoline tax would presumably not just be a one-shot tax, and it is appropriate to look over time, when analyzing both capital gains or gasoline taxes.

Mr. GRAETZ. We will look at those studies.

Mr. MOODY. The other point that I would make is that, and I would reemphasize the point that Mr. Dorgan made, that if we actually spend it on infrastructure, we may increase the productivity of America, and, therefore, enhance our long-term economic prospects far more than we do by leaving the money in someone's pocket to be spent on personal consumption. If infrastructure is a constraint on that productivity, which I think it is sharply becoming, then I think that your concerns about the economy are well-

placed. It might make us look at this very way of spending the money, rather than not spending it, so I would hope, on either of those grounds, either on economic grounds, growth and productivity, particularly, or on regressivity, it may be worth looking at this question from time to time. I would appreciate if you would.

Mr. GRAETZ. Thank you.

Mr. MOODY. Thank you.

Mr. GIBBONS. Mr. Secretary, I think every member of this committee is concerned about a number of provisions of the House clean air bill, which gives EPA the authority to impose fees to serve as economic incentives or penalties for companies that reduce emission of various pollutants. Are you aware of any other instances in which Congress has given the administration the authority to raise revenues without fairly specific guidance as to the amounts of such fees, and whom they should be imposed upon?

Mr. GRAETZ. I am not aware personally of any such examples, Congressman.

Mr. GIBBONS. Well, I think—I'm going to say the unsayable here—we think you are asking blanket authority to levy a tax without having to—and call it a fee—and bypass the Congress.

Mr. GRAETZ. Well, Mr. Chairman——

Mr. GIBBONS. Which violates the Constitution, you know.

Mr. GRAETZ. The Treasury Department, as much as we are concerned about our own relationship with taxpayers, would be greatly reluctant to see any agency of the Federal Government given blanket authority to raise taxes. I am not familiar with the House provisions, or the size of those fees or the constraints on them. The EPA is here today, and I'm sure they will be glad to respond to you about that, but to the extent that what is at stake is a delegation of congressional authority to raise taxes, we would share your concerns.

Mr. GIBBONS. Well, I think you are begging the question. When you asked to impose fees, I can understand one for maybe entering the national park. That is an optional provision that, you know, a person can either get along without or not, or maybe to do some other sort of voluntary acts that you may want to raise a fee on it, but when you involuntarily impose a charge that you can't avoid, it is a tax.

Now, I'm not as distinguished a lawyer as you are, and I never had the opportunity of teaching law, but I think I know the difference between a tax and a fee, and what you are asking us to do, as I see it, clearly is impose a tax and disguise it as a fee.

Mr. GRAETZ. Well, Mr. Gibbons, as I understand it, the fees in the Clean Air Act are limited to cover the cost of administering that system. That may be wrong in the House bill. I'm not an expert on the House bill. To the extent that we are talking about fees for the cost of administration, it seems to me that that is much more like the national parks.

Mr. GIBBONS. Well, let's argue as lawyers, then. If you could use that fee argument to administer something, we could impose it on health, we could impose it on the military, we could impose it on everything that the Government does. We would just call a gasoline charge a fee, because, you know, most of it is expended on the highways. You are talking about a tax. It looks like a tax, it walks

like a tax, it smells like a tax, it talks like a tax, and it is a tax, and you all are just playing games with the English language.

Mr. GRAETZ. Well, Mr. Gibbons, the Treasury Department is not requesting authority to unilaterally impose taxes, I can assure you of that.

Mr. GIBBONS. What was that statement? I didn't hear.

Mr. GRAETZ. The Treasury Department is not requesting the authority to impose taxes.

Mr. GIBBONS. Oh, they do it all the time. They just call them regulations. They are not laws, they are only regulations, but they sure do put you in jail for violating those regulations.

Mr. GRAETZ. We certainly have the authority to interpret the law as Congress has enacted it, and you have delegated that authority to Treasury. I thought you were speaking of actual imposition of taxes, and we do not desire that authority.

Mr. GIBBONS. Well, we are still bouncing on the head of a pin, and arguing about definition. I know a tax when I see it. It is an involuntary charge. Fees are voluntary, because you don't have to pay them if you don't want to use the facility, but this is a charge. This is a tax. I can't see the difference, and, you know, I don't hold myself out to be the great lawyer that you are, but I think I know enough about what is a tax, and what is a fee, and this is a tax—no other way to explain it than that.

Are there any questions from members of the committee?

Mr. Guarini.

Mr. GUARINI. Mr. Chairman, in looking over the testimony—I'm sorry I wasn't here in the beginning—but I understand that what was stated was more what you are against than what you are for, and we have a tremendous rising concern, acid rain, toxic waste, oilspills, global warming—very emotional issues, and what we really need is leadership, leadership by corporate America.

Now, I understand Fortune magazine had an article recently where they had the good guys and the bad guys, and they said what GM, DuPont, 3M, and McDonalds are doing; where there are positive things where, as a corporate conscience, they are doing for the community. They are taking a strong, creative position, and they are cranking into environmental concerns in making their corporate decisions.

How could we get more corporate statesmanship from our private sector if you are against everything that is a suggestion with very, very few exceptions, and I think you are for ethanol being subsidized, and one or two other things which are very costly, and not very efficient, from what I can understand. How can we encourage corporations to more environmentally statesmanlike? What kind of incentives could we have? How do we get that partnership between the U.S. Government and our various entities and corporations going? We have got to have some kind of a positive program as how we can lift the conscience of these corporate people when they are making the decisions.

Mr. GRAETZ. Mr. Guarini, I really do not think that it is accurate to characterize the testimony as against everything. The administration has made broad clean air initiatives that have produced a bipartisan agreement for a Clean Air Act on the Senate side after many years of no action. There are broad proposals for reforesta-

tion incentives in the budget to address the emissions of carbon. The administration is committed to improving the environment. What we have expressed here today is concern about the use of the tax system for those purposes, and we are, frankly, skeptical of that the tax system can be used widely for those purposes, although we have seen some opportunities that it might be used appropriately. We have tried to indicate an openness to that. I do not think that it is accurate to characterize the administration as negative on the environmental concerns, which are the subject of the committee hearing today.

Mr. GUARINI. Well, I got that from perusing through, looking at the various suggestions that have been made, and apparently you do not wish to use any part of the Tax Code, or subsidies, in regard to saving the environment, that you go more on regulations, and some of those regulations have been weakened considerably, like automobile emissions, et cetera.

But is there anything—I'm asking you from a positive viewpoint—that corporations could do, have environmentalists on their board, encourage them to have vice presidents in charge of the environment concerns—are there ways that the Government could more or less take some leadership role in suggesting to corporations what they should do, where they have such an important stake in the future of America?

Mr. GRAETZ. Well, I think that we ought to encourage corporations to reflect on this, and to take action. What the administration has been trying to do is to try and find ways of addressing the environmental issues that do not impose undue costs on the economy. I think that working in that direction provides great leadership for corporate America to join in moving forward. To the extent that we can make the solutions, as under the Clean Air Act emissions provisions, the least costly for corporate America, I think we are moving ahead in encouraging them to reach the emissions standards that we are enacting. I think it is a positive approach.

Mr. GUARINI. I don't want to suggest—I agree with everything that you say, but there are a lot of platitudes that you are exchanging. I am just asking for a positive program. Sometimes a President jawbones, and gets corporations together, to have a White House conference. There are positive things that might be done to lift the conscience of corporations that isn't there, and I'm just wondering if the President wants to take a leadership, or just let the corporations drift there by their own, and if they violate the regulations, then they pay—$10,000 a day for an Exxon spill is hardly anything to a company that is a multibillion profit company like Exxon, and I was just asking you if there is anything you think the administration could do. If there is nothing, then I accept your testimony.

Mr. GRAETZ. I think the administration is taking a leadership role on this issue, Mr. Guarini.

Mr. GUARINI. All right, thank you, sir.

Mr. GIBBONS. Thank you, sir.

Let's see, Mr. J. Clarence Davies.

STATEMENT OF J. CLARENCE DAVIES, ASSISTANT ADMINISTRATOR FOR POLICY, PLANNING AND EVALUATION, U.S. ENVIRONMENTAL PROTECTION AGENCY

Mr. DAVIES. Thank you, Mr. Chairman. I am J. Clarence Davies, Assistant Administrator for Policy, Planning and Evaluation at the U.S. Environmental Protection Agency. I appreciate the opportunity to discuss how the Federal tax system could be used to improve the environment.

Over the past two decades, we have achieved major improvements in the quality of the environment. Emissions of virtually every major air pollutant have decreased. Sulfur dioxide emissions, the major contributor to acid rain, decreased by 28 percent between 1970 and 1988. Emissions of smog-forming volatile organic compounds are down by 30 percent over the same time period. Airborne emissions of lead, which can impede neural development in children, are down by 90 percent.

Mr. GIBBONS. How much?

Mr. DAVIES. Ninety, 90 percent. That is largely due to the automobile regulations.

Mr. GIBBONS. The tax on leaded fuel?

Mr. DAVIES. The regulations which specified the amount of lead that could be in the fuel.

This progress is all the more remarkable when one considers that it occurred over a period of time when the economy grew by over 40 percent. For example, the number of miles traveled by automobiles increased by nearly 50 percent, yet the emissions from automobiles decreased by 50 percent.

Despite this progress, however, it is clear that in many cases we have not achieved our environmental goals; 100 million Americans live in cities that do not meet EPA's health standards for smog. Our surface waters remain polluted by runoff from many small sources of contamination. Disposal of solid waste is becoming more difficult, expensive, and divisive for local communities. In addition, new problems have surfaced which are both serious and complex. These include both stratospheric ozone depletion and potential greenhouse warming.

In general, the problems which have been brought most effectively under control so far are the more obvious, and easily resolved, problems. The environmental problems of the next 10 years will become increasingly complex, and increasingly costly to solve. Moreover, the approaches to controlling pollution that have worked well in the past may work less well in the future.

For two decades, EPA has relied heavily on command and control regulations to address environmental problems. These involve setting and enforcing pollution standards for industrial facilities, defining acceptable work practices, and specifying emissions standards for many kinds of consumer products, such as automobiles. This approach can be effective in reducing pollution when the pollution emanates from large, or easily identified sources; however, these have already been largely controlled, and new programs are tackling the environmental consequences of more dispersed, and difficult to identify, activities. Among these are the disposal prac-

tices of households, and a myriad of small contributors to pollution in different media.

In recent years, EPA has also increased its emphasis on source reduction, and other pollution prevention actions, to promote environmental protection. Encouraging pollution prevention requires influencing an extremely diverse set of activities. These diverse sources and activities may be less easily and effectively reached by traditional command and control approach; therefore, new approaches are needed to address new policy objectives.

Market-oriented approaches to control will be of great interest in this regard. Not only can they potentially affect activities that would be extremely intrusive to effect with traditional forms of regulation, but they can substantially reduce control costs. Under command and control regulation, Government must decide which controls to install, and who must install them. Because of Government's limited access to cost information, this inevitably results in overcontrol for some firms, those firms whose costs of control are high, and undercontrol for others, those firms whose costs of control are low.

When market incentives are used, these decisions are made by industry, which has better cost information, and presumably will control the cheaper sources of pollution before the more expensive ones. The result is that the total control costs associated with achieving an environmental goal are likely to be lower with market incentives than with command and control regulation.

Incentive-based policies seek to influence, but not to dictate, the actions of the targeted parties. These policies work by creating or enhancing private and public incentives to take actions that protect and enhance the environment. While command and control regulations dictate certain actions by the regulated community, incentive-based policies leave the choice of action to the effected parties, based on their own evaluation of costs and benefits of various actions, as influenced by the incentive policies. I might add, parenthetically, that in most cases, the goal must be established by regulation, and it is the means that are left to the market.

Incentive-based policies are also consistent with the "polluter pays" principle. Adopted by all OECD countries in 1975, this principle states that the polluter should be charged with the costs of whatever pollution prevention and control measures are determined by the public authorities, whether preventive measures, restoration, or a combination of both. Incentive policies, including fee approaches, can be an important tool to ensure that polluters pay for the full cost of cleanup.

A broad definition of incentive-based approaches includes many policies that influence, but do not dictate, behavior. This includes programs to improve the information available to decision-makers on activities that cause pollution, or to alter decision-makers' evaluation of cost and benefits through moral persuasion or public scrutiny. Among the market incentive mechanisms that may be used to promote environmental goals are the following: marketable permits, which are tradable, Government-issued privileges to discourage pollutants, and use scarce environmental resources—that has already been discussed in connection with the Clean Air Act proposals; monetary incentives, which are methods to change

market incentives, including direct subsidies, reduction of subsidies with perverse environmental effects, fees, penalties, and tax incentives; deposit refund systems, such as a bottle deposit bill, to discourage disposal, and encourage central collection of specific products; information disclosure, to improve the operation of existing markets by providing information to important players; procurement policies, and Government procurement policies can be a major force for encouraging environmentally benign products; and then, finally, liability rules and performance bonds, to increase parties' incentives to act in an environmentally responsible manner.

Many economists have long suggested using a variety of these approaches. In particular, it is agreed that when firms do not have to pay for the use of the environmental resources into which they discharge their wastes, the costs of pollution are imposed on others in the form of reduced human health and welfare. One solution is to require polluters to pay for the use of the environment. In theory, if a fee is charged for each unit of emissions, those producers who can install controls more cheaply than the amount of the fee will control emissions rather than pay the fee. Conversely, those producers for whom the costs of control are higher than the amount of the fee will choose to pay the fee, rather than control. In this way, emissions will be reduced up to the point where the costs of further reductions equals the benefits of control.

There have been questions raised about this approach, and it works a little better in theory than in practice sometimes, but basically, the theory is a basic, fundamental tenet of economics.

With this background, let me address a few specific legislative proposals that have received some attention. Many have raised the notion of applying a fee on the generation of electricity, or on emissions of sulfur dioxide. The revenues from such a fee would be used to subsidize the capital costs of pollution control equipment required under the President's proposed clean air legislation. The administration is opposed to such a tax scheme. The tax is unnecessary because of provisions, including tradable emission rights, contained in the President's proposal to amend the Clean Air Act.

While the administration opposes this sort of levy on electricity or sulfur dioxide, the President's clean air proposal does impose user fees in a number of situations. For example, the proposal does suggest a system of permit fees that would collect revenue to support the administrative costs of air pollution programs, but automobile manufacturers would have to pay for EPA certification and compliance tests. The administration supports using such user fees when the regulated community derives services from the Government.

The committee has asked how the Federal tax system could be used to counter the effects of ozone on the Nation's agriculture and forests. H.R. 3030, which reflects the proposals of the President for amending the Clean Air Act, contains a provision calling for a report to Congress on emissions of smog-forming pollution from commercial and consumer products. The report is to consider alternative regulatory approaches for those products, including fees, charges, marketable permits, and auctions. After the report is submitted to Congress, the Administrator is to promulgate the regulations he deems necessary to aid in the attainment of the ozone

standard. Thus, emission fee approaches will be given serious consideration for reducing ozone pollution.

In summary, fee and tax programs can introduce powerful economic incentives for improving environmental quality; however, these represent only one of the number of options for introducing market incentives in environmental regulation. Other approaches currently being used, or under active consideration, including marketable emission rights, information disclosure, procurement policies, and deposit refund systems. The desirability of a particular regulatory approach depends largely on individual circumstances. What works for one problem may be inappropriate for another. In addition, before any approach to environmental regulation can be advocated, a careful examination of its effects on competing social goals should be undertaken. Emission fee approaches, when viewed in this regard, represent an important potential tool for environmental regulation. We are actively examining the use of fees in a variety of contexts, including fees to conserve valuable natural resources, and to discourage the use of potentially toxic materials.

Given the increasing complexity of environmental problems, and the difficulty of making significant new gains in environmental quality after two decades of strong Federal regulation, market incentives will be increasingly relied upon as a regulatory tool. This is already reflected in the President's proposal to amend the Clean Air Act. These approaches are useful, not only because they reduce the total cost of regulation, but because they have the potential to target small, diverse polluters, who are contributing significantly to the Nation's current environmental problems.

Thank you for allowing EPA to present its views on this issue, and I would be glad to answer any questions.

[The statement of Mr. Davies follows:]

J. CLARENCE DAVIES
ASSISTANT ADMINISTRATOR
FOR POLICY, PLANNING AND EVALUATION
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
COMMITTEE ON WAYS AND MEANS
U.S. HOUSE OF REPRESENTATIVES

March 6, 1990

Good morning Mr. Chairman and Members of the Committee. I am J. Clarence Davies, Assistant Administrator for Policy, Planning and Evaluation of the U.S. Environmental Protection Agency. Thank you for the opportunity to discuss how the Federal tax system could be used to improve the environment.

Over the past two decades we have achieved major improvements in the quality of the environment. Emissions of virtually every major air pollutant have decreased. Sulfur dioxide emissions, the major contributor to acid rain, decreased by 28% over the 1970 to 1988 time period. Emissions of smog forming volatile organic compounds are down by 30%. Airborne emissions of lead -- which can impede neural development in children -- are down by 90%.

The story is the same for other forms of pollution. In 1976, only 30% of municipalities were served by secondary treatment facilities; the percentage in 1988 was 62%. Major programs now exist for problems that were unknown twenty years ago. Examples of these include leaking underground storage tanks and the cleanup of hazardous waste disposal sites.

This progress is all the more remarkable when one considers that it occurred over a period of time when the economy grew by over 40%. For example, the number of miles travelled by automobiles increased by nearly 50%, yet the emissions from automobiles decreased by 50%. Despite, this progress, however, it is clear that in many cases we have not achieved our environmental goals. One hundred million Americans live in cities that do not meet EPA's health standards for smog. Our surface waters remain polluted by runoff from many small sources of contamination. Disposal of solid wastes is becoming more difficult, expensive, and divisive for local communities. In addition, new problems have surfaced which are both serious and complex. These include both stratospheric ozone depletion and potential greenhouse warming.

In general, the problems which have been brought most effectively under control so far are the more obvious and easily resolved. The environmental problems of the next ten years will become increasingly complex and costly to solve. Moreover, the approaches to controlling pollution that have worked well in the past may work less well in the future. For two decades EPA has relied heavily on command-and-control regulations to address environmental problems. These involve setting and enforcing pollution standards for industrial facilities, defining acceptable work practices, and specifying emission standards for many kinds of consumer products (e.g., automobiles). This approach can be effective in reducing pollution when it emanates from large, or easily identified sources. However, these have already been largely controlled and new programs are tackling the environmental consequences of more-dispersed and difficult to identify activities. Among these are the disposal practices of households and a myriad of small contributors to pollution in different media.

In recent years, EPA has also increased its emphasis on source reduction and other pollution prevention actions to promote environmental protection. Encouraging pollution prevention requires influencing an extremely diverse set of activities. These diverse sources and activities may be less easily and effectively reached by a traditional command-and-control approach. Therefore, new approaches are needed to address new policy objectives.

Market-oriented approaches to control will be of great interest in this regard. Not only can they potentially affect activities that would be extremely intrusive to affect with traditional forms of regulation, but they can substantially reduce control costs. Under command-and-control regulation, government must decide which controls to install and who must install them. Because of government's limited access to cost information, this inevitably results in overcontrol for some firms (whose costs of control are high) and undercontrol for others (whose costs of control are low). When market incentives are used, these decisions are made by industry, which has better cost information and presumably will control the cheaper sources of pollution before the more expensive ones. The result is that the total control costs associated with achieving an environmental goal are likely to be lower with market incentives than with command-and-control regulation.

Incentive-based policies seek to influence but not to dictate the actions of the targeted parties. These policies work by creating or enhancing private and public incentives to take actions that protect and enhance the environment. While command-and-control regulations dictate certain actions by the regulated community, incentive-based policies leave the ultimate choice of action to the affected parties, based on their own evaluation of costs and benefits of various actions as influenced by the incentive policies.

Incentive-based policies are also consistent with the polluter pays principle. Adopted by all OECD countries in 1975, this principle states that the polluter should be charged with the costs of whatever pollution prevention and control measures are determined by the public authorities, whether preventive measures, restoration, or a combination of both. Incentive policies, including fee approaches, can be an important tool in ensuring that polluters pay for the full costs of cleanup.

A broad definition of incentive-based approaches includes many policies that influence but do not dictate behavior. This includes programs to improve the information available to decision-makers on activities that cause pollution, or to alter decision-makers' evaluation of costs and benefits through moral suasion or public scrutiny. Among the market incentive mechanisms that may be used to promote environmental goals are:

- Marketable permits: tradeable government-issued privileges to discharge pollutants and use scarce environmental resources.

- Monetary incentives: methods to change market incentives, including direct subsidies, reduction of subsidies with perverse environmental effects, fees, penalties, and tax incentives.

- Deposit/refund systems: to discourage disposal and encourage central collection of specific products.

- Information disclosure: to improve the operation of existing markets by providing information to important players.

- Procurement policies: government procurement policies for more environmentally benign products.

- Liability rules and performance bonds: to increase parties' liability to act in an environmentally responsible manner.

Many economists have long suggested these approaches. In particular, it is agreed that where firms do not have to pay for the use of the environmental resources into which they discharge their wastes, the costs of pollution are imposed on others in the form of reduced human health and welfare. One solution is to require polluters to pay for the use of the environment. In theory, if a fee is charged for each unit of emissions, those producers who can install controls more cheaply than the amount of the fee will control emissions rather than pay the fee. Conversely, those producers for whom the costs of control are higher than the amount of the fee will choose to pay the fee rather than control. In this way, emissions will be reduced up to the point where the costs of further reductions equal the benefits of control.

While this approach may make economic sense, some have questioned such an approach because it leaves open the possibility of polluting the environment if a firm is willing to pay enough for the privilege of so doing. Thus, a fee approach might not be appropriate in situations where health-based standards require that certain thresholds of pollution never be exceeded. Accordingly, the design of an emission tax program must address these and other factors.

With this background, let me address a few specific legislative proposals that have received some attention. Many have raised the notion of applying a fee on the generation of electricity or on emissions of sulfur dioxide. The revenues from such a fee would be used to subsidize the capital costs of pollution control equipment required under the President's proposed Clean Air legislation. The Administration is opposed to such a tax scheme. The tax is unnecessary because of provisions, including tradable emissions rights, contained in the President's proposal to amend the Clean Air Act.

While the Administration opposes this sort of levy on electricity or sulfur dioxide, the President's Clean Air proposal does impose user fees in a number of situations. For example, the proposal does suggest a system of permit fees that would collect revenue to support the administrative costs of air pollution programs. Automobile manufacturers would have to pay for EPA certification and compliance tests. The Administration supports using such user fees when the regulated community derives services from the government.

The Committee has asked how the federal tax system could be used to counter the effect of ozone on the nation's agriculture and forests. H.R. 3030, which reflects the proposals of the President for amending the Clean Air Act, contains a provision calling for a report to Congress on emissions of smog forming pollution from commercial and consumer products. The report is to consider alternative regulatory approaches for those products, including fees, charges, marketable permits, and auctions.

After the report is submitted to Congress, the Administrator is to promulgate the regulations he deems necessary to aid in the attainment of the ozone standard. Thus, emission fee approaches will be given serious consideration for reducing ozone pollution.

Conclusion

In summary, fee and tax programs can introduce powerful economic incentives for improving environmental quality. However, these represent only one of a number of options for introducing market incentives in environmental regulation. Other approaches currently being used or under active consideration include marketable emission rights, information disclosure, procurement policies, and deposit/refund systems.

The desirability of a particular regulatory approach depends largely on individual circumstances. What works for one problem may be inappropriate for another. In addition, before any approach to environmental regulation can be advocated, a careful examination of its effect on competing societal goals should be undertaken. Emission fee approaches, when viewed in this regard, represent an important potential tool for environmental regulation. We are actively examining the use of fees in a variety of contexts, including fees to conserve valuable natural resources and to discourage the use of potentially toxic materials.

Given the increasing complexity of environmental problems and the difficulty of making significant new gains in environmental quality after two decades of strong federal regulation, market incentives will be increasingly relied upon as a regulatory tool. This is already reflected in the President's proposal to amend the Clean Air Act. These approaches are useful not only because they reduce the total cost of regulation, but because they have the potential to target small, diverse polluters who are contributing significantly to the nation's current environmental problems.

Thank you for allowing EPA to present its views on this issue and I would be glad to answer any questions you may have.

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Mr. STARK [presiding]. Thank you, Mr. Davies. The committee is going to recess in a minute or two, but one of the concerns that we have here, and the preceding witnesses sort of handed this one off to you, as you are aware, but under the House clean air bill, which, I understand, is basically the administration's proposal, it allows you, or the EPA, to impose certain fees as an incentive for companies not to pollute. One, I'd like you to explain to us the circumstances under which those fees would be imposed, and who would pay them, and how large they would be, but second, could you submit to us, in writing, after today, an outline of the details that you have in mind for how these fees would work? We obviously have a concern, and I don't mean to be disingenuous, that these sound very much like taxes, and I'm not suggesting this in the Darmanian "duck" situation, but this is a concern, that if they are taxes, that they be structured so that they fit into the code. Can you comment on that for us?

Mr. DAVIES. Well, I understand the committee's concern. There are a variety of different fees imposed in different parts of the——

Mr. STARK. And you will outline those for us, and give us whatever plans you have for how—that would be very helpful.

Mr. DAVIES. Yes, I will submit that for the record.

Mr. STARK. Do you want to speak to that generally?

Mr. DAVIES. Well, I think some of them are more closely tied to the services provided than others, so you have a sort of spectrum, and I think the ones which are directly tied—the automobile manufacturers' fees certification for example—I think are the kinds of fees that the Congress has approved of for a long period of time, and which we have employed in a variety of circumstances for a long period of time.

Some of the other schemes, such as the fee on VOC emissions from solvents, which was brought up here earlier, are, I think, consistent with that same philosophy, and that same approach, potentially do raise more questions, and I think the bill is crafted in such a way that it applies criteria for the level of the fee, and for when it will be imposed, and so on, that adequately protects all of the parties concerned, and make it clear that it is a fee, not an outright tax, but——

Mr. STARK. I would have flunked Professor Graetz' course, so I have a little problem. How do you look at our CFC tax? That is pretty clearly a tax, isn't it?

Mr. DAVIES. Well, it is labeled a tax. It is, in effect, an attempt there, as I understand it, to recover the windfall profits that might ensue from a regulatory decision that had already been taken, so it is designed to influence behavior in the sense of phasing out the CFC's sooner than they might otherwise be phased out, but the fundamental trigger there, or the fundamental reason for the tax, is not so much to change environmental behavior as to recoup—to raise—raise revenues deriving from a windfall situation.

Mr. STARK. So if we just call it a tax, you would stipulate that it is a tax?

Mr. DAVIES. I think that we could argue about the semantics for some time, sir. I might have flunked the course, myself, because I don't think it is a sharp line. I think it is gradation, and where one draws the line is a very subjective thing.

Mr. STARK. Actually, if you would, insofar as you can, outline what plans you might have for those various fees, we would appreciate it very much.

Mr. DAVIES. We will submit that.

Mr. STARK. Yes, I guess that I wanted to clarify that, if you would provide for the record all of the fees and their relationship to the environmental regulation that they attach that with, it would be useful to the members and our staff.

Mr. DAVIES. Let me make sure I understand, all the fees in H.R. 3030, or all of the fees that exist across the board?

Mr. STARK. Particularly in the clean air bill. Is that 3030? I don't know it by number.

Mr. DAVIES. Yes, yes. In the House version of it, yes. OK.

Mr. STARK. The committee will recess for 15 minutes.

[Recess.]

[The information requested follows:]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C. 20460

APR 10 1990

THE ADMINISTRATOR

Honorable Dan Rostenkowski
Chairman
Committee on Ways and Means
House of Representatives
Washington, DC 20515

Dear Mr. Chairman,

This is in response to questions at the March 6, 1990 hearing and your follow-up letter regarding information on fee and penalty provisions of H.R. 3030, and their relationship to expected costs of administering the programs associated with the provisions. In providing this information, I will discuss the various fee and penalty provisions associated with H.R. 3030, EPA's role in administering these provisions, and as available, cost estimates associated with the programs in question.

The fee and penalty provisions that would be imposed under H.R. 3030 primarily fall into two categories: (1) cost-recovery user fees, and (2) penalties for failure to meet pollution control requirements. Both types of provisions are already found in the current Clean Air Act (as enacted in 1977) and cost-recovery user fees, in particular, are found throughout numerous Federal statutes administered by many different agencies. In addition, H.R. 3030 authorizes charges that EPA may impose if it promulgates a pollution control plan for an area (a "Federal Implementation Plan" or FIP).

I. Cost-Recovery User Fees.

A. Description of Fees.

1. Permit Fees.

The permit fees, which are to be paid to the state (or local agency), are designed to recoup the state costs of developing and administering the new operating permit programs required under the bill. The permit fees are to be imposed in an amount "sufficient to cover all reasonable costs of developing and administering the permit program," including certain costs specified in the bill (e.g., review of permit applications, air quality monitoring). The bill specifies a minimum amount of $25

per ton per year for each pollutant regulated under the Act (except carbon monoxide) to be collected from all permitted sources on an aggregate basis (with a 4,000 ton cap per pollutant per source). The state may collect a greater or lesser amount, on an aggregate basis, if such can be shown to cover the appropriate costs. The fees are to be assessed annually, or the equivalent funds are to be collected over some other period, with states having flexibility concerning how and when to collect them (e.g., upon permit application, renewal, or in annual increments). (H.R. 3030, Section 402(b)(3), page 236, line 17.[1])

EPA has performed rudimentary analyses of the overall permit (Title IV) cost recovery potential. If all states comply and establish permit programs using the $25/ton fee, EPA estimates that approximately $300 million annually could be recovered by the state and local agencies in the first year of full implementation to pay for administration of the program. It should be noted that this amount is based on 1985 National Acid Precipitation Assessment Program (NAPAP) emissions inventory information. The final amount generated will depend on emissions inventories available during the year of assessment, and the states' rate of compliance.

The bill further provides that if the state fails to operate a permit program and collect the permit fees, EPA may do so. Any funds EPA collects must be placed in a special fund for use in carrying out EPA's Clean Air Act responsibilities, subject to Congressional approval. Sources that fail to pay such fees are subject to penalties and interest. EPA estimates that if it were to operate the permit program, a greater expense would be incurred and hence a larger fee charged. Federal fees, however, would not exceed the reasonable costs of any Federal costs. It is the Agency's intent to avoid a significant Federal role by working with the states to identify and resolve impediments to their smooth implementation of the Title IV requirements. It is not possible to estimate Federal fee amounts at this time because the expected rate of state noncompliance is not known.

2. Consumer or Commercial Product Fees.

The bill grants EPA discretion to regulate consumer or commercial products, which are defined, in general, as products (e.g., paints, home cleaning products) that emit volatile organic compounds. The bill gives EPA the option to impose fees or charges with respect to these products, but those fees or charges "shall be related to recovery of the costs of such applicable regulations and their implementation," and must be placed in a special fund for use in carrying out EPA's activities related to

[1] References to H.R. 3030 are to the Committee Print, dated November 9, 1989, which was adopted by the House Committee on Energy and Commerce, Subcommittee on Health and the Environment.

consumer or commercial products. (H.R. 3030, Section 183(c), beginning on page 88, line 3.) At this time, we are unable to estimate the type or scope of fees that may be charged to assist in recovering costs of applicable regulations, except that any fees recovered would not be in excess of anticipated costs, as required by the bill.

3. Vehicle Certification Fees.

EPA is required to certify motor vehicles to ensure that they meet and maintain emissions standards. To pay for these costs, the bill authorizes EPA to impose fees "to recover all reasonable costs to the Administrator" associated with vehicle testing and certification. These fees, too, must be placed in a special fund for use in EPA's testing and certification activities. (H.R. 3030, Section 217, page 184, line 1.)

Current estimated costs of programs such as certification and fuel economy testing, selective enforcement audits that occur at the end of the assembly line, and in-use recall are approximately $5 million annually. The President's 1991 budget estimated that the $5 million in fees could be collected from motor vehicle compliance programs.

As authorized in H.R. 3030, EPA can issue rules to develop a system to recover such motor vehicle compliance program costs. There are several issues that EPA will consider in developing such a system. EPA could recover costs in proportion to a manufacturer's production, or based on an allocation of costs related to the specific amount of effort expended by EPA. A charge for issuing a specific "Certificate of Conformance" with emissions standards might be appropriate. On the other hand, it might be more workable to divide the total cost of all programs by the number of certificates and charge a fixed cost per certificate issued. (Approximately 200 such certificates are issued every year.) Small volume producers may need additional consideration under such an arrangement. These are all issues that will be discussed in the rulemaking proceeding.

B. Discussion.

All of the charges described above are cost-recovery user fees. They are designed solely to collect the costs of specified regulatory activities from the business operations that create a need for such regulatory activities. The charges are relatively small and do not create any widespread burden on the economy. They are not designed to raise general revenues.

Moreover, these fees are comparable to fees already found in the Clean Air Act. The permit fees--which apply with respect to the operating permit requirements not currently found in the Clean Air Act--are an extension of current Clean Air Act section 110(a)(2)(K), which imposes similar permit fees that are

primarily applicable to construction permits. These existing permit fee requirements were added as part of the Clean Air Act Amendments of 1977.

Furthermore, these fees are indistinguishable from a plethora of cost-recovery fees found in numerous other statutes administered by other agencies. A recent survey by the Administrative Conference listed close to 100 such fees, collected by over two dozen agencies, e.g., (i) Securities and Exchange Commission (SEC) filing fees; (ii) fees for inspection, grading, and classification services provided for foodstuffs by the Department of Agriculture; and (iii) fees for receiving copyright protection by the Library of Congress.[2]

II. Penalties For Failure To Meet Pollution Control Requirements.

A. Description of Penalties.

1. Acid Deposition Excess Emissions Penalty. Under the bill, any source that emits sulfur dioxide or nitrogen oxides in excess of the amount permitted must pay a penalty equal to $2,000 per ton (adjusted for inflation) of excess emissions. The amount was set at $2,000 in order to exceed the estimated economic value of non-compliance. The funds are payable to the U.S. Treasury. (H.R. 3030, Section 510, beginning on page 286, line 10.)

2. Penalty for Major Sources in Areas Failing to Attain Ozone Standard. Under the bill, if an area classified as a "severe" ozone nonattainment area fails to attain the national ambient air quality standard for ozone by the attainment year (the year 2010, assuming enactment in 1990), all major sources of volatile organic compounds (precursors to ozone) located in the area must pay to the state a penalty equal to $5,000 per ton (adjusted for inflation) of emissions in excess of 80 percent of a specified baseline amount. The baseline amount is the emissions allowed to be emitted in the attainment year, or, if lower, the amount of emissions actually emitted in that year. The penalty amount was set at $5,000 in order to exceed the economic value of non-compliance. If the state fails to collect this penalty, EPA is required to do so. Any moneys collected by EPA must be deposited in a special fund and used for the purposes for which the fees were collected. (H.R. 3030, Section 185, beginning on page 95, line 1.)

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[2] "Federal User Fees--Data Compilation with Addendum," Administrative Conference of the United States, May 3, 1988.

3. Other Penalties. H.R. 3030 includes a series of other civil and criminal monetary penalty provisions, e.g., (i) authority to issue administrative penalties of $25,000 per day per violation, up to $200,000 (H.R. 3030, proposed Clean Air Act section 113(d)(1)); (ii) authority to issue administrative "field citations" of $5,000 per day of violation (H.R. 3030, Section 113(d)(3), page 308, line 20); and (iii) a criminal penalty of $1,000,000 for knowing release of certain hazardous pollutants (H.R. 3030, Section 113(c)(5)(A), page 304, line 3.)

B. Discussion.

All of these charges are penalties that apply only if sources emit pollutants in excess of specified amounts or violate other requirements of the Clean Air Act. They are intended to compel compliance with the Clean Air Act by eliminating economic incentives not to comply. These penalties are not to raise general revenues for the U.S. Treasury. EPA cannot at this time estimate whether individual sources will emit in excess of pollution control requirements or be in violation of other requirements, and therefore be fined under the various penalty provisions. However, if the penalties have their intended effect, they will raise little, if any, revenue.

It should be noted that these penalties are extensions of the penalty provisions of the existing Clean Air Act. The $2,000 excess emissions fee for acid deposition sources, and the $5,000 fee for sources in certain ozone nonattainment areas, are comparable to the penalty under Section 120 of the current Clean Air Act. Under Section 120, certain sources that fail to meet Clean Air Act requirements may be subject to a penalty equal to the economic value of non-compliance. This provision was added as part of the Clean Air Act Amendments of 1977.

The other penalties under H.R. 3030 are comparable to Section 113 of the current Act, under which sources that fail to comply with pollution control requirements are subject to civil penalties of $25,000 per violation per day. The current Clean Air Act contains other similar penalty provisions as well, e.g., failure to comply with auto emissions standards (Clean Air Act section 205).

III. FIP Charges

The bill also authorizes EPA, in promulgating a FIP, to include "economic incentives, such as fees, marketable permits, or auctions of emissions allowances" in the plan. (H.R. 3030, proposed Clean Air Act section 302(r), page 125, line 10.) EPA will only initiate a Federal implementation plan if a state fails to fulfill certain obligations under the state implementation plan and nonattainment provisions. If this new authority to consider such fees and economic incentives is granted, EPA will include such considerations along with other attainment considerations if it is called upon to promulgate a Federal plan.

Sincerely yours,

William K. Reilly

William K. Reilly

Mr. GIBBONS [presiding]. I want to go back to this fee tax matter. That bill that is in the Energy and Commerce Committee now, I understand, is the administration's—or very similar to the administration's—air pollution control act, and that bill grants to you the authority to levy something that I think is a tax, and you all call it a fee. It is an involuntary charge, anyway, against certain industries, and even the industries aren't defined exactly, to encourage them to do certain acts, or to make certain contributions, to the U.S. Treasury.

Can you tell me with precision who these industries are, and what the tax rate will be, and how much the maximum tax will be, or the maximum fee, if you prefer to beg the question? What are we talking about in this area?

Mr. DAVIES. Well, as I mentioned earlier, there are a variety of different fee provisions contained in that bill, so I guess——

Mr. GIBBONS. Well, let's get specific. You all are the authors of it—I guess you are. What are they, and how much are they, and how long do they last, and everything else? Tell me about them.

Mr. DAVIES. Well, I have agreed to supply for the record a complete list.

Mr. GIBBONS. Well, you don't even—I know you are going to do it for the record, but I am here listening now. What do you have in mind?

Mr. DAVIES. Well, for example, there would be a fee on automobile manufacturers to cover the costs of certifying the emissions control system.

Mr. GIBBONS. How much would that be?

Mr. DAVIES. I do not know the level.

Mr. GIBBONS. How would you figure out the level?

Mr. DAVIES. Well, presumably, it would be enough to cover the cost of performing that service.

Mr. GIBBONS. Well, does it cover just the cost of the inspectors, or the machinery, or the overhead of EPA?

Mr. DAVIES. It would presumably cover the full cost of performing—we are not talking about the inspections of individual cars, now. We are talking about the models that are submitted by the manufacturers for certification of that whole line of automobiles. In other words, we are talking about something that Ford or GM does, rather than an individual car owner, and I assume that whatever fee was levied on the automobile manufacturers would be sufficient to cover the full range of those costs.

Mr. GIBBONS. Well, who would determine the size of that fee?

Mr. DAVIES. Well, presumably, it would be determined by EPA, but it would be subject, I assume, to court review, because if it were excessive in any way, it would be in violation of the provisions of the law.

Mr. GIBBONS. What criteria would EPA use in assessing this fee or tax?

Mr. DAVIES. The criteria would be to cover the cost of performing that particular service.

Mr. GIBBONS. Including the administrative cost of EPA?

Mr. DAVIES. Presumably, yes.

Mr. GIBBONS. All of the costs that EPA has, of any forms or description that can be——

Mr. DAVIES. That can be directly related to performing that function, yes.

Mr. GIBBONS. How about a part of the salary of the head of EPA, is that a part of it? I'm just trying to start at the top and come down.

Mr. DAVIES. Right. Sir, I don't dispute that there are some areas which would be debatable in terms of what would be included or excluded from the calculation of that fee, but I think the basic criterion is a reasonably clear-cut one, and any kind of fee that were in any way punitive, I think, in that context, would be clearly a violation of the intent of the law.

Mr. GIBBONS. Well, who is going to determine whether it is punitive or not, if we don't know the criteria?

Mr. DAVIES. Well, punitive in the sense that they were designed to do something other than recover the direct costs of performing that service.

Mr. GIBBONS. All right. Who else is it going to cover besides the automobile industry? Who is it going to cover in the automobile industry, the suppliers? Will the suppliers be included, or——

Mr. DAVIES. No, it is assessed against any manufacturer who applies for certification that the vehicles produced by that manufacturer meet the emissions requirements that year.

Mr. GIBBONS. Well, is it going to be assessed on the number of vehicles that come off the assembly line? How is it going to be assessed?

Mr. DAVIES. I do not know the details of how it will be allocated among manufacturers, whether it would be the same fee, regardless of the number of cars produced, or whether it would be adjusted in some fashion. I don't know.

Mr. GIBBONS. Have you all reduced that to writing yet?

Mr. DAVIES. I frankly am not sure whether the explanation that goes with the act explains that or not. I don't believe that it does, but I will be glad to check that and let you know.

Mr. GIBBONS. Well, in addition to putting it in the record, let me know personally about it, if you would. Write me a letter or something, and let me know.

Mr. DAVIES. All right. I have been passed a note by my staff expert that says that it will be assessed on the number of vehicles tested, so, in other words, as you know, the emissions approvals are done by type of model car, so a manufacturer that had just one model car would pay once, and a GM that had 20 models would pay 20 times as much. It is on the number of cars tested.

Mr. GIBBONS. The number of cars tested?

Mr. DAVIES. Right.

Mr. GIBBONS. Who else is covered? Is it just the final assembler of the car, or is it somewhere else in this whole system? I'm just trying to figure out what it is going to be and what it is going to cost.

Mr. DAVIES. You mean where and when in the process?

Mr. GIBBONS. Where in the process?

Mr. DAVIES. Usually, the companies produce prototype models just prior to going into full production.

Mr. GIBBONS. So it would be limited to prototype models, but no supplier, or subcontractor, will be included in that tax?

Mr. DAVIES. No, it is the final manufacturer that would pay.

Mr. GIBBONS. Well, do you have any idea of what that would be, if you are only testing one car? What would it cost?

Mr. DAVIES. I, offhand, don't know, because I don't know what the total cost of performing that service is.

Mr. GIBBONS. Has EPA done any studies to figure out what the cost would be?

Mr. DAVIES. Yes, I think that we, and I have not seen those studies, but I am pretty sure that we do know what those costs are.

Mr. GIBBONS. Well, is it a big charge, or a little charge? What kind of charge is it?

Mr. DAVIES. I am handicapped, both by not knowing what the total cost is, and not knowing the number of cars that would be tested, so, I mean, it is a question, also, of, you know, how many——

Mr. GIBBONS. Well, now, other than automobile producers, who else is going to be taxed under this system?

Mr. DAVIES. There is a fee——

Mr. GIBBONS. Or charge?

Mr. DAVIES. You mean, under the system of the bill?

Mr. GIBBONS. Yes, I'll compromise with you. I won't call it a tax if you won't call it a fee. We'll call it a charge.

Mr. DAVIES. All right.

Mr. GIBBONS. Nobody knows what that is, but these charges—who else is going to pay them besides the automobile manufacturers?

Mr. DAVIES. You mean under other provisions of the bill?

Mr. GIBBONS. Well——

Mr. DAVIES. Or do you mean under the charge for certifying automobiles?

Mr. GIBBONS. Well, no. We've gotten automobiles out of the way.

Mr. DAVIES. OK.

Mr. GIBBONS. Who else—what other products—are going to be——

Mr. DAVIES. There are—companies who apply for new source permits under the act—have got to pay—would have to pay—a charge for those permits, and again, the charge is designed, presumably, primarily, to cover the cost of issuing those permits.

Mr. GIBBONS. In other words, the people that are now polluting would not pay any of these charges?

Mr. DAVIES. That is incorrect.

Mr. GIBBONS. So you are going to grandfather those polluters in, but are the new ones that come on that——

Mr. DAVIES. Well, it is the cost of providing the permit. It is similar to the system we have in pesticides which is in effect now. I mean, to register a new pesticide, one has to pay a fee.

Mr. GIBBONS. Well, it seems to me that a system like that just kind of cements into the system we already have, and tends to stifle innovation, doesn't it?

Mr. DAVIES. Well, I don't believe so, sir, because, I mean, first of all, the charge will be a fairly modest proportion of the costs of starting up a new plant, let's say, or constructing a new source in that area.

Mr. GIBBONS. I'm sure that is not what the National Association of Manufacturers is going to tell me when they come along, or even the automobile people, when they come along. They are not going to say it is going to be small, inconsequential.

Mr. DAVIES. I'm not sure. Again, I can draw only on the existing analogous systems, but in the case of pesticides, for example, the pesticide manufacturers gain in the sense of more expedited review and processing of registrations, and so it really is to their advantage to have a system that is adequately financed.

Mr. GIBBONS. It was probably for that reason that the framers of the Constitution required that taxes be levied by Congress, in order to keep them from being vague and indefinite, or whimsical, and I think that that, you know, your answers have proven to me that it is vague and indefinite so far. I wouldn't call it whimsical, because it is not a whimsical subject that we are talking about, but I think you are levying a tax, and I think the Constitution is going to give you the comeuppance if you try to collect it, if you levy it in the way in which you are talking about. I don't see how you can levy something that is as vague and indefinite as that, and say it is a user fee, unless we are going to plan to change the whole system of financing the cost of government.

Mr. Cardin, you had a question?

Mr. CARDIN. Thank you, Mr. Chairman.

Mr. Davies, reading through your testimony, and listening to your presentation and that of the last administration witness from the Treasury, I can't help but be somewhat disappointed the administration has not come forward with a long-term strategy to deal with environmental issues.

The chairman, in announcing this hearing, indicated that he wanted witnesses to come forward with long-term views concerning our environment and explain how the Federal tax system could be used to improve our environment. Your testimony goes through some results of recent years, and I'm going to stay away from the Clean Air Act for one moment, because there is going to be plenty of debate on the Clean Air Act in this Congress, including the finance measures that are used within it. But you know we have problems with clean water recycling, landfilling, wild rivers, and other unique areas. We also have problems with energy conservation, and many of the witnesses that have and will testify may talk about ways in which we can do a better job protecting our people and the environment as it relates to these issues.

You are the lead agency that protects our environment, and I would hope that you would focus in on some approaches that we would improve our environment in the next 5 or 10 years. Let me try to focus in, perhaps, on one issue, and maybe get your response on others that are worthy of review.

In reviewing the Treasury's statement, there is at least one area that looks like it may attract action because of its dealing with virgin material. The Treasury did not come out against that particular proposal, but said it is worthy of more study.

In fact, this morning's paper in Baltimore talked about lead poisoning and its effects on youth. We also had a lot of concern about the improper disposition of batteries, and the problems it is causing with lead. Perhaps there should be some Tax Code incentive to use

recycling of lead, rather than virgin lead. So I guess if I could have you focus in on that particular aspect, to find out whether it is worthy of exploration.

Mr. DAVIES. No, I think your points are well-taken, and we are, in fact, very actively examining the use of economic and market incentives to apply to the kinds of problems you are talking about, and a number of other problems, as well. If you want to focus on the lead question, I agree with you that is a critical question. Lead is still a major problem in the United States, and in terms of disposal, lead acid batteries account for the vast proportion of lead that is disposed of in landfills. We are looking at some kind of deposit-refund system on batteries, and the question, and I think there is a general point here—none of these situations are simple, and trying to anticipate the consequences of some kind of intervention in the market, in terms of either raising the price, or changing the rules in some ways, are often very difficult to predict. We don't know that much about how either companies or individuals will react to those kinds of changes.

There are also environmental consequences that may not be straightforward, so, for example, with lead acid batteries, it is not clear what kind of a deposit you would have to have to actually increase the amount that is recycled, and the environmental consequences are not straightforward, because it turns out that the secondary lead recyclers are, themselves, major environmental problems. We have a real problem in terms of those facilities that recycle batteries. It is a fairly crude process, and the controls on them are not very good, and so we have a real question which is actively under investigation, as to whether, in fact, you are better off with the lead acid battery sitting in a landfill somewhere undisturbed, or are you better off getting it recycled in one of these facilities, even if the facility is not environmentally adequate.

Mr. CARDIN. I guess the first matter that must be done is to acknowledge that we have a problem, and we do have a problem with lead.

Mr. DAVIES. No question about it.

Mr. CARDIN. We may not know the solution yet, but I would feel more comfortable if we were more actively involved in trying to come forward with solutions on that. In addition to lead, there are a lot of other environmental problems that are out there.

Mr. DAVIES. But it is a good example, and it is one that we are very actively concerned about, and, as I indicated, I mean, it is also a success story, in the sense that reduction of the lead content, or elimination of lead, from gasoline, probably may be the best public health measure this country has taken in a long time, and it is a real success story, but there still is a problem, and it is a serious problem, and the major source of exposure to children who are the major exposed population, really, actually comes from lead in paint from old houses, and we are cooperating very actively with the Department of Housing and Urban Development, which has the lead responsibility for taking care of that problem, but it is a difficult one, because there is no good solution, other than literally just chipping the paint off the walls of those old houses, and the cost figures there are just out of sight.

We have used our authorities to limit or prohibit lead in the manufacture of new paint, so at least, it is a problem that will taper off over time, and we are very carefully looking at the other sources of lead in the environment, in which lead acid batteries are probably the major one, as to how to get at those problems.

Mr. CARDIN. One suggestion is to put a fee on batteries and use it to help fund some of the programs to abate lead paint in some of our older housing. You may be able to combine some of these programs. Is there any timeframe that you could give us as to when you would expect to have further information available as to what solutions are feasible.

Mr. DAVIES. I am optimistic that we will be making proposals within a very short period of time, within 2 or 3 months.

[The following was subsequently received:]

NANCY L. JOHNSON
6TH DISTRICT, CONNECTICUT

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HEALTH
HUMAN RESOURCES

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April 23, 1990

Mr. J. Clarence Davies, Assistant Administrator
Office of Policy, Planning and Evaluation
U.S. Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460

Dear Mr. Davies:

As a followup to your appearance before the House Committee on Ways and Means on March 6, 1990, I would appreciate having your response to the following question regarding current tax treatment of contributions in aid of construction of regulated public utilities. In my home state of Connecticut, I am advised that this tax has driven up substantially the cost of extending water mains to those whose potable water supplies have been contaminated. I also am aware that the Subcommittee on Select Revenue Measures recently received testimony that indicates new housing developers are discouraged by this tax from connecting to existing water or sewer systems.

In such cases as these, does your agency see increasing risks to public health and the environment, and what effect do such cases have on EPA's efforts to enforce waste disposal and drinking water quality regulations?

I appreciate your attention to my concerns and look forward to hearing from you at your earliest convenience.

Very truly yours,

Nancy L. Johnson

Nancy L. Johnson
Member of Congress

NLJ:rl

cc: Hearing record

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

SEP 14 1990

OFFICE OF
POLICY, PLANNING AND EVALUATION

Honorable Nancy L. Johnson
House of Representatives
Washington, D.C. 20515

Dear Mrs. Johnson:

Thank you for the opportunity to comment on H.R. 118, to amend Section 118 of the Internal Revenue Code to provide for certain exemptions from certain rules determining contributions in aid of construction. I have referred this matter to several of our analysts in the Office of Policy Analysis. Unfortunately, none of these people can offer any particular expertise on this complex matter. It may be that some further clarification as to the question and the issue would allow us to give a substantive response.

I regret that my efforts to provide a substantive response have delayed my response to your inquiry. Please let me know if I can be of any assistance in the future. If you would like to clarify the matter by phone, please contact me at (382-4332) or Daniel Fiorino, Associate Director of the Office of Policy Analysis, at 382-4012.

Sincerely,

Terry Davies

Terry Davies
Assistant Administrator

Mr. CARDIN. Thank you.

Thank you, Mr. Chairman.

Mr. GIBBONS. Thank you, sir. We appreciate your testimony.

Now, we have a panel consisting of the Environmental Defense Fund, Natural Resources Defense Council, and Greenpeace Action Group.

Without objection, your entire statements will be placed in the record, and I would ask you to please try to summarize them in 5 minutes. I'll be generous, I'm not going to cut any of you off, but there are an awful lot of people we have to listen to today, or have the privilege of listening to today, and I would like to get all of them in sometime today.

Mr. Roberts.

STATEMENT OF WILLIAM J. ROBERTS, SENIOR ATTORNEY, ENVIRONMENTAL DEFENSE FUND

Mr. ROBERTS. Thank you, Mr. Chairman.

My name is William Roberts, and I am a senior attorney with the Environmental Defense Fund. On behalf of EDF, I would like to thank the Committee on Ways and Means for providing us with an opportunity to discuss the impact of the national tax policy on our environment. Because EDF has submitted extensive written comments to the committee, I will use this opportunity to be brief.

The committee has asked us to focus our remarks on a variety of specific tax initiatives including tax mechanisms to control air pollution and encourage energy conservation, measures to tax sulfur dioxide and nitrogen oxide emissions to control acid rain, measures to encourage the development of renewable energy resources, alternative fuels, and recycling.

However, before turning to specific proposals, we believe it is important to set out some general principles the committee may use to measure the success or failure of any tax initiative. This test can be summed up in two words: environmental results.

Although this sounds simple enough, as with most things it gets more complicated in the Tax Code. When it comes to taxes, there are really two kinds of environmental results, direct results from revenues, and indirect results from tax incentives.

A tax raised solely to provide revenues for a specific environmental initiative, such as the Superfund or Oil Spill Liability Trust Fund, or as Mr. Cardin has suggested, a lead fund, offers quantifiable environmental benefits up front. The environmental benefit is immediate and direct.

On the other hand, gauging the environmental benefit from a tax incentive standing alone may be more difficult. To understand how a tax can succeed or fail to improve the environment, it is important to understand how the marketplace responds or fails to respond to pollution.

Generally speaking, our market responds well if the assets used in the production of goods and services are internalized. A machine toolmaker will look after his or her employees and plant machinery because the total cost of replacement, repair, and rehire of these valuable assets falls to the manufacturer.

On the other hand, if an asset is external to the manufacturer's bottom line, he or she will have no incentive to protect the value of that asset.

Pollution is a classic example of what economists call an externality, because the polluters do not usually bear the cost of polluting. In the case of pollution, the external assets include our oceans, rivers, atmosphere, and drinking water.

What this means in the marketplace is that manufacturers and consumers do not bear the full cost of pollution. In the face of lower costs, manufacturers produce more and consumers buy more than they would if the impact on these community assets were factored into the bottom line and price tag of our goods and services.

Taxes can help solve the market breakdown. Taxes can be used to pull these external costs into the production consumption process. Ideally, we set the tax at a level that reflects not only the production cost of the product but the social costs of any environmental damage caused by the production.

For example, if the machine toolmaker discharges effluent into a nearby stream and through a tax he or she is made to pay the cost of damage to that stream, the manufacturer must raise the price to reflect the increased cost. The more the damage to the stream, the higher the tax. The higher the tax, the higher the price, and the lower the consumption.

If the tax is set correctly, the marketplace will appropriately balance the social benefits of production against the social costs, including damage to the environment.

So much for economics. Let's return to the real world. To make a tax achieve environmental results, we have to calculate the social costs of damage to the environment. But what are the real costs of pollution?

Toxic chemicals can cause severe birth defects, cancer, and death. How do we put a value on these effects? Or a value on human life? What is the cost of losing an endangered species? What price do we place on a clear view across the Grand Canyon or the majesty of the Redwoods?

As these questions illustrate, it is a tricky matter to calculate the scope, much less the cost, of environmental damage. But let's assume that any reduction in pollution will yield substantial environmental benefits. The tax must still be high enough to induce measures to reduce pollution. The problem here is that we usually know very little about the relative cost of controlling pollution.

If the cost of controlling pollution is very high and the tax is low, chances are that the tax will not induce emissions reductions. Polluters will pay the tax rather than reduce emissions. If the tax is too high, you run the risk of overcontrol of emissions.

In our written testimony, we offer a timely example of the hit-and-miss problem of taxation. Several proposals have been offered to place a fee on industrial sources of SO_2 emissions at between $30 and $80 per ton, depending upon the proposal.

But data from a 1985 study by the ICF Corp. indicates that the per-ton cost of controlling SO_2 emissions ranges between $284 and $579 per ton. If these numbers are even remotely accurate, an industrial polluter would clearly pay the fee rather than reduce

emissions. To meet the test of environmental results, the fee must be set considerably higher.

Another tax that the committee may consider adjusting is the gasoline tax. Clearly, there are important environmental gains to be achieved from reducing emissions from cars and trucks. Extensive research which is detailed in our written testimony shows that gasoline consumption will decline somewhat from the increases in the gasoline tax. However, the tax appears to have both a short-term and long-term effect.

In a short run, the reductions will be comparatively small and will be achieved through more carpooling, public transportation, and less travel.

In the long run, however, the change in consumption is more substantial, largely because automakers produce more fuel-efficient cars and trucks.

The problem is that it may take as long as 10 years to feel the full effects of a tax increase. Clearly, in order to meet the test of environmental results, the gas tax must be teamed with other economic and regulatory measures to reduce auto emissions.

Despite the difficulties of using tax incentives, we believe that such incentives can be worth pursuing. Specifically, the Environmental Defense Fund is in the midst of an economic evaluation of a number of proposals to impose a Federal packaging tax, both to spur recycling and to provide funds for local recycling investments.

This is not a new idea. In fact, most of the major economic research in this area was conducted at EPA's request in the 1970's. But, as the United States wrestles with 150 million tons of municipal solid waste each year, we need to squarely face the Nation's garbage crisis right away.

Although EDF is not in a position to offer a specific proposal at this time, I would like to mention three specific observations from our written testimony:

First, the tax should cover all paper and most nonpaper packaging materials, including glass, steel, aluminum, and plastics. The combination of these materials accounts for over 60 percent of our total waste stream.

Second, as noted earlier, we must set the tax to induce recycling. Unlike many other areas, however, we have an easier time measuring the cost of solid waste disposal because cities around the country are entering into a large number of contracts for disposal services. These contracts can provide a useful basis to measure the cost of disposal and consequently the appropriate tax rate.

Finally, the revenues collected can be funneled back to local recycling projects. Because other means of waste disposal currently enjoy a wide range of subsidies, a Federal allocation to recycling activities could have a substantial effect in encouraging private investment in recycling.

Although a packaging tax of some sort could well take us two steps forward in solving our solid waste problem, a number of provisions in the Tax Code pull us one and maybe two steps back. Specifically, I am referring to the favorable tax treatment given for the production of a variety of virgin materials, including wood pulp for paper, mining subsidies for a variety of materials, petroleum

subsidies that aid the supply of plastics and other provisions in the Tax Code.

The EPA is currently conducting a study to review the collective impact of these subsidies and we look forward to their results. Any real effort to address our solid waste crisis must address not only new taxes but repeal of environmentally counterproductive tax subsidies.

In conclusion, EDF believes that the taxing power of the Federal Government is a potentially powerful policy tool to help solve environmental problems. The simplest way to achieve environmental results is to ensure that any taxes levied are set aside for specific environmental purposes.

Without a specific allocation of revenues, however, it becomes more difficult to peg taxes at a rate that will achieve real environmental benefits. Nevertheless, we believe that taxes used in conjunction with other regulatory and economic tools provide a comprehensive arsenal to ensure a safe and clean environment.

As we enter the 1990's, EDF would like to work with the committee to fashion solutions to the difficult environmental problems that lie ahead.

Thank you, Mr. Chairman.

[The statement of Mr. Roberts follows:]

STATEMENT
OF THE
ENVIRONMENTAL DEFENSE FUND

submitted by
Dr. Daniel J. Dudek, Alice M. LeBlanc,
John Ruston, and William Roberts

INTRODUCTION

The Environmental Defense Fund is pleased to have the opportunity to address the Committee concerning the application of the Federal tax system to resolve environmental problems. We would like to focus on comments generally on three main aspects:

1.) The use of effluent taxes as an instrument of environmental policy.
2.) The application of user fees or specific levies to provide dedicated revenues for environmental programs.
3.) The incentives provided by the existing tax code.

The globe is being swept by a resurgent interest in the power and importance of markets and economic incentives. The centrally planned economies of Eastern Europe and to a lesser extent the Soviet Union are rushing to unshackle decision makers and to force enterprises to face the discipline of the market. One of the last social frontiers to feel the winds of these changes is management of the environment. The Environmental Defense Fund has long held the tenet that both economic well-being and environmental quality are best served by informed decision makers facing the full consequence of their choices.

Taxation is one of several policy instruments available to correct market distortions in the prices of polluting inputs, goods, or production processes. The aim of using taxation in this way is the attainment of environmental goals. All policy instruments should be judged by their effectiveness in producing improved environmental quality. Other possible economic tools that can be employed in lieu of or in addition to taxation in this regard include transferable permits, strict liability rules, user fees, and effluent charges.

ENVIRONMENTAL POLLUTION: A CASE OF MARKET FAILURE

In order to evaluate the effectiveness of imposing taxes as a means to improve environmental quality, there are three general areas we can explore. First, we can try to better understand what the expected environmental results of a tax should be. We can do this by examining why, from an economic point of view, pollution is a problem or why markets don't work in allocating the full cost of pollution, in short why government intervention is necessary at all.

Secondly, we need to know what information is required in order to set the level of the tax correctly so as to attain the desired environmental goals. In addition, we need to know the likelihood of obtaining the required information and the implications of not setting the tax at the proper level.

Third, it will be helpful to examine two specific examples of potential taxes -- one on the use of gasoline and one to facilitate the control of sulfur dioxide (SO_2) emissions --in terms of the information required to set the tax correctly, how the tax would work to obtain the environmental goal and how the tax compares to other available control measures.

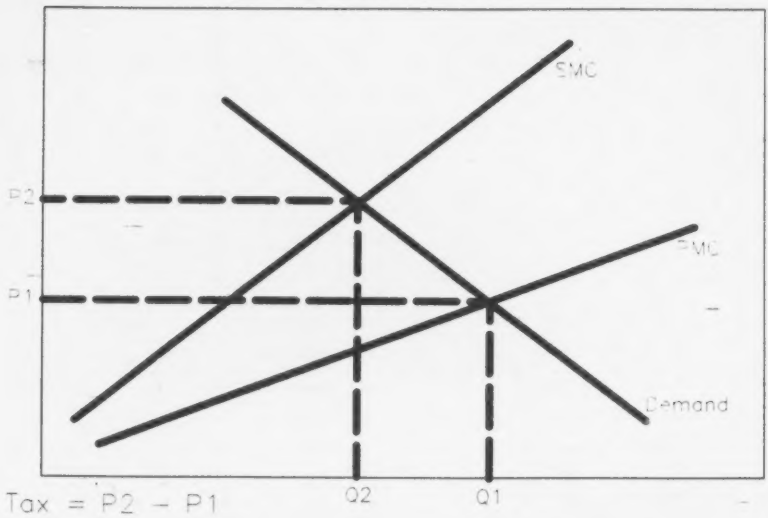
An externality refers to a damage or benefit that one individual or firm derives from another and that can be characterized as a spillover effect. For example, someone who enjoys the flowers his neighbor plants pays nothing but receives a benefit. Pollution is an example of a negative externality in that emissions from one source damage resources others use. For example, environmental pollution is estimated to reduce the national output of the Polish economy by 20% (Nelson, 1990).

A key feature of a ideal market system is that valuable assets can be individually owned. Together with competitiveness, this ensures that all costs of production and consumption are borne by the producers and consumers directly involved. Some important, extremely valuable assets, however, do not lend themselves to private ownership. These include the atmosphere, oceans and other waters. Because these assets, referred to as common property resources, are not owned and cannot be exchanged like ordinary commodities, they are one of the major sources of externalities. Without ownership of these environmental commodities, there is no market incentive to reduce emissions or to provide environmental protection. Open and unpriced access to these resources means that the full costs of production and consumption of polluting goods are not reflected in the market prices, resulting in greater than optimal production or consumption levels. In other words, a firm that attempted to produce cleaner air, for example, would not be able to exclude nonpaying consumers from enjoying the benefits of its activities.

The following diagram illustrates the supply, or marginal costs, and demand for a good that includes a polluting externality. Social marginal costs (SMC) represent the full costs to society including the damage costs produced by pollution. Private marginal costs (PMC) represent the market costs that individual firms and consumers face. The market equilibrium price and quantity are P_1 and Q_1, but the optimal price and quantity when full

social costs are taken into account are P_2 and Q_2. Consequently, when pollution is not considered in the market process, output of both the product and pollution are greater than desirable. The difference between the two prices--P_2 minus P_1-- is the level at which the tax should be set. By setting the tax at this level the price facing consumers will reflect the full social costs and result in the optimal level of consumption of the market good and production of pollution. The tax thus works indirectly to raise the price of the good and induce a reduction in demand and consequently in the amount of pollution. The difference between the areas under the two marginal cost curves (SMC minus PMC) from 0 to Q_1 represents the total value of environmental damages at the market equilibrium level.

Figure 1. Social and Private Costs



In this example it is necessary to know the demand and marginal cost curves in order to determine the correct tax level. Such a dtermination is particularly critical when the tax is the sole economic instrument to achieve a stated environmental goal. However, pollution can be produced in a variety of ways. It can be associated with a particular input, for example, coal containing sulphur. Pollution can be produced as a by-product of particular technology as in the case of chlorofluorocarbons used as aerosol propellants. In each case, the use of the environment as a free disposal resource produces excessive waste and environmental damage. An alternate way of examining this issue is to let the good in question be emissions reductions and ask what information is needed to determine the tax level required to achieve a given reduction in emissions of a given pollutant. The marginal cost curve in this case is the cost of control technology and the marginal benefits curve represents benefits to society from a given level of pollution reduction measured as avoided damages. Without a tax or intervention from outside the market to control the externality, the supply of pollution control is not brought into play. The emissions tax should be set at the price level P^* where the two curves cross.

Again, we ask the question what information is necessary to set the correct tax level and under what conditions is a tax the most appropriate policy instrument? In a world of perfect information, the choice of policy tool is unimportant because both optimal price and quantity are known and the desired result can be achieved either by controlling price through a tax or controlling quantity through strict standards or tradeable permits.

In the real world of imperfect information and uncertainty, however, it is unlikely that the exact characteristics of these curves will be known. Uncertainty concerning the marginal cost curve of pollution abatement results partially from unknowns regarding future technologic developments, learning curves and the diffusion of technology. Uncertainties in the marginal benefits curve relate to lack of complete understanding of the full impacts of pollution damages and difficulties in estimating costs of some damages.

Frequently, maesuring environmnetal damages raises imponderables such as the value of a human life or an endangered species. Indeed, one of the serious deficiencies of the cost-benefit approach is the difficulty of quantifying all of the non-market valued impacts of environmental pollution.

Research papers by Weitzman, Griffin and Adar, and Fischelson reach similar conclusions concerning the best policy instrument in the face of uncertainty. Uncertainty in the marginal benefits curve has no effect on the choice of policy instrument. If there is uncertainty in the marginal cost curve, the decision on whether to use a price instrument such as a tax or a quantity control measure depends on the relative slopes of the curves. A tax is not the preferred policy instrument if the marginal cost curve is relatively flat and the marginal benefit curve is relatively steep in the area of targeted reductions and if the objective of the tax is to achieve those reductions. This can be illustrated with yet another graph. Suppose we have estimated the marginal cost and benefit curves as MC and MB and we have correctly determined the relative shapes of the curves. The level of the emissions tax would be set at t*. However, suppose the true marginal cost curve is MC'. In this case, the tax has no effect; because of the shape of the marginal cost curves, it falls completely below marginal costs. If the true marginal cost curve is MC'' then the tax level induces a much larger quantity in emissions reduction than is optimal, again because of the relative shapes of the two curves. It might be added that while the precise shape of the curves may be unknown, we might expect a fairly steep marginal benefits curve at critical pollution levels. As Weitzman states in his paper "Prices versus Quantities", the amount of pollution which makes a river just unfit for swimming could be a point where the marginal benefits of an extra unit of output change very rapidly".

Figure 2. Costs and Benefits of Emissions Reduction

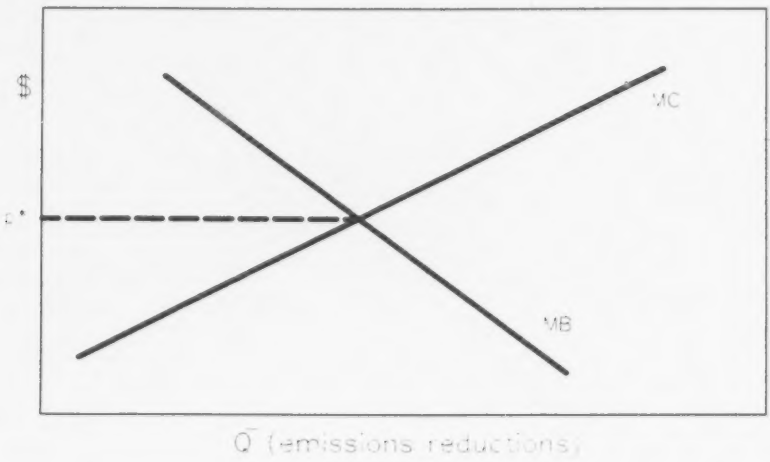
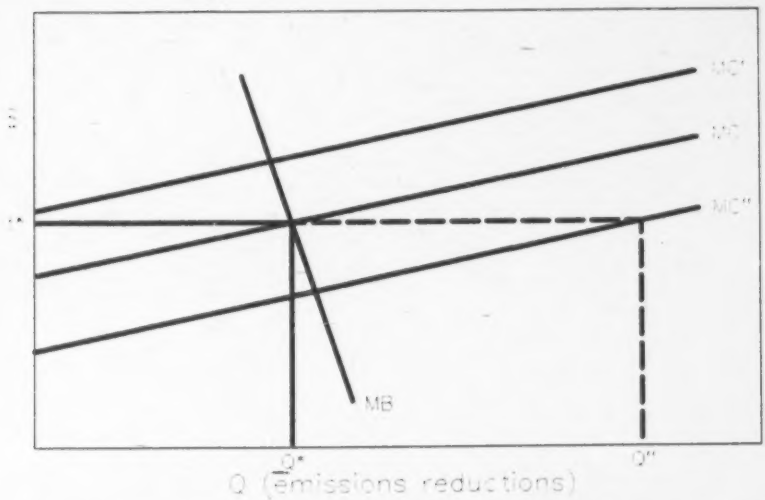


Figure 3. Performance of Tax under Uncertainty



Another option for control authorities to overcome this information burden is to experiment and set the tax at different levels observing the response of polluters and thus tracing out the marginal cost curve. This approach produces large uncertainities for polluting firms since pollution control investments are often lumpy. Firms may not be able to precisely and smoothly tune levels of pollution.

THE CASE OF ACID RAIN

Setting the level of a tax incorrectly may produce either little environmental benefit or costly over-control. An example of this problem can be found in some of the legislative proposals under discussion in the House Energy and Commerce Committee. One acid rain proposal would set fees on industrial sources of SO_2 emissions at $55 per ton while another would initially set the fee at $45 per ton with a future range of $30 to $80 per ton. These fees can be compared to the cost of cost-effective emissions reductions reported by ICF Corporation in an October 1985 study on sulfur dioxide emission reduction alternatives for industrial sources. The 1995 cost per ton of cost-effective reductions of SO_2 emissions for industrial boilers reported in that study ranged from $284 to $579 depending on different reduction scenarios. If these cost estimates are at all realistic, the fee levels set in these two proposals would clearly fall below most of the range of the relevant cost curves and provide no incentive for industrial emitters to reduce SO_2. In order for these emission fees to have an impact on the behavior of polluters, other than raising revenues for utility subsidies, these fee levels would have to be significantly higher.

Given the time and financial requirements for planning and implementing control technologies, an iterative process through which the tax is re-set following market response is not feasible. The cost of information required to set the tax correctly is high even in the acid rain case where a significant base of public information exists. In the face of uncertainty, as Weitzman says in his article, "prices can be a disastrous choice of instrument far more than quantities can." Looked at strictly from an environmental point of view, setting limits on quantities may not reach the optimum economic solution, but will at least result in the minimally acceptable environmental solution.

THE CASE OF GASOLINE AND AIR POLLUTION

Much research has been conducted on the effects of a gasoline tax on consumer demand. Most of the analysis involves measuring the relationship between change in price of gasoline and change in demand. This relationship, the percent change in quantity consumed divided by the percent change in price, is the price elasticity of demand. It is necessary to estimate this

measure in order to have some idea of the extent of reduction in gasoline consumption, and any change in the suite of emissions produced from gasoline combustion from a given level of gasoline tax.

Literature reviews of the research indicate a wide range of elasticity estimates. In addition, there are two different types of price elasticity, the short run, usually defined as within a year after the price change, and the long run, usually meant to extend at least 10 years from the price change or tax. Since gasoline is a derived demand, i.e. derived from the demand for transportation services, equations which model demand often specify the variables that directly influence gasoline consumption, namely vehicle miles traveled and average miles per gallon. Vehicle miles traveled depends in turn on variables such as real income levels, the relative price of gasoline, and othyer transportation options.

A literature review prepared by the Energy Information Administration indicates a range of short term price elasticities between -.1 and -.3 and long term elasticities between -.3 and -.9. Similarly, the range of estimates in a literature review by Carol Dahl are -.03 to -.52 for short term and -.1 to -1.61 for long term. Differences in the estimates can result from the type of data used. This can be time series (monthly, quarterly or annual) and/or cross sectional (across regions, countries or individuals). It can also result from the scope of the modeling effort, that is from the comprehensiveness of variables and effects taken into consideration. In addition the statistical technique employed will also affect the estimates. Though each elasticity estimate may be valid in its own context, the diversity contributes to uncertainty in determining one estimate of the true price elasticity of gasoline demand.

The elasticities chosen by the EIA for use in their own automobile gasoline model were developed by James Sweeney. In prior research Sweeney estimated elasticities in the short term from -.12 to -.22 and in the long term from -.73 to -.78. For the EIA model his estimates are -.28 for a one year period and -.82 for a 10 year period. However in a short term model that does not account for demand response because of change in vehicle efficiency, the estimate used by the EIA is -.16. Similarly , in discussing the difference between short and long term demand responses, the analysis reported by the EIA in "Price Elasticities of Demand for Motor Gasoline and Other Petroleum Products" concludes that "The greatest proportion of 10 year price response manifests itself in increase in vehicle efficiency." Dahl in a paper in which she estimates the long term price elasticity states "The short run estimated elasticity is -.442 of which half comes from changes in miles per gallon. In the long run, demand is more elastic than -.778 of which nine-tenths comes from changes in miles per gallon."

It seems clear that the immediate demand response to change in gasoline prices is small relative to the price change and takes the form of reduction in vehicle miles traveled through carpooling, use of public transportation, and simply less travel. Most of the overall effect on demand results from the change in auto stock to more fuel efficient cars. While this begins to take effect in the first year following a price change, the full effect is not felt for at least ten years.

To summarize, the estimates for the demand response to a gasoline price change vary significantly. There is some consensus, however, that the response in the short term is not very great and that the long term response occurs over a period of at least ten years through a switch to a more fuel efficient stock of automobiles. However, over a period of ten years, factors such as changes in world oil markets and changes in real income levels can intervene and change the desired the tax level, assuming the level could be determined in the first place. The results of the research indicate uncertainty in setting the tax level correctly initially, little effect in the short term, and the possibility of the need to reset the level in the long term in order to maintain the real relative effect of the tax. It is also difficult to directly translate reduced fuel consumption into emissions reductions and environmental improvements. Emissions reductions would depend critically on the polluting characteristics of the fleet as well as fuel consumption. Given these uncertainties a tax on fuel should not be the only instrument relied upon to reduce emissions. However, by raising prices, a tax should induce more efficiency. In order to achieve a stated environmental goal, however, it should be used in conjunction with other economic and regulatory instruments.

A FEDERAL PACKAGING TAX -- ISSUES AND OPTIONS

The United States produces about 160 million tons of municipal solid waste per year -- about twice as much, per capita, as Japan and many European nations. In the last decade, the burden of our waste-generating habits has become painfully apparent. Over 14,000 municipal solid waste landfills have closed since 1978, or 70% of the total operating at the time. Ordinary, decaying landfills comprise over a fifth of the sites on the Environmental Protection Agency's Superfund National Priorities List. Due to high costs, environmental hazards and political controversy, solid waste incineration is not turning out to be the solution once promised.

The highly visible ramifications of the mounting "garbage crisis" have caused legislators and economists to take a new look at means of reducing waste generation and increasing recycling. One approach under consideration is a federal packaging tax, sometimes referred to as a products charge, "advance disposal fee," or a virgin materials tax.

A number of bills that would differentially tax virgin, recycled and recyclable packaging have shown up in state legislatures in the last three years. For example, one proposal from the 1988 New York State legislative session would have placed a 3-cent charge on rigid containers. The levy would have been reduced by 1 cent if the container were recyclable, 1 cent if made from recycled materials, and all 3 cents if both. The only major state bill of this type that has been passed is a Florida tax on virgin newsprint.

Interest in a materials tax at the federal level, where it would be easier to apply and administer, has also been growing. Coca Cola and other large consumer retail corporations have been circulating a general proposal. H.R. 3737, part of Rep. Thomas Luken's RCRA reauthorization package, would levy $7.50 per ton tax on virgin materials that would be reallocated to the states, with little guidance on what they could do with it.

Justification for a federal packaging tax.

There are two major economic justifications for a federal packaging tax. First, such as tax would help internalize solid waste disposal costs in the decisions of firms that manufacture packaging and other goods. Second, revenues from a federal packaging tax could be reallocated to support state and local recycling efforts. Many states and municipalities are currently making what are essentially public works investment decisions that will cumulatively entail billions of dollars of spending on future waste management systems -- recycling, incineration and landfilling. In this situation, careful crafting of the mechanism for reallocating federal funds could potentially leverage large private investments in recycling.

In the 1970s, two major economic studies were commissioned by the EPA to assess the impact of a federal packaging tax (U.S. EPA, 1977; Miedema, et al. 1980). One study covered a range of materials; the other concentrated on paper (Miedema, et al. 1976). No recent analysis has examined the issue as extensively as these works. The Environmental Defense Fund is in the midst of an economic evaluation of different packaging tax options, but has not yet taken a position on any given proposal.

The characteristics of the general packaging tax considered by Miedema et al. included a weight-based rate on paper and packaging materials that allocated total solid waste collection and disposal costs, estimated at $26 per ton, and an exemption for secondary materials. This study concluded that the gross volume of material to be disposed of would decline only slightly (2% to 3%) due to the reduced use of virgin materials. The study also concluded that recycling rates could grow from two to many times then-current rates, depending on the material, due to increased funding for recycling. Total tax revenues after phase-in of the tax were estimated to be about $2 billion, with administrative costs of the tax in the acceptable range of .5% to 1% of gross yield.

Design elements of a federal packaging tax

* products to include

The EPA-commissioned work of the 1970s and testimony of economists before the Senate Committee on Public Works, Subcommittee on Environmental Pollution (94th Congress, 2nd session, May 20, 1976), generally concurred that a tax should cover all paper and most non-paper packaging materials, including glass, steel, aluminum and plastics. In 1975, these materials comprised 56.3% of the United States' municipal waste stream, growing to 60.5% by 1985 (Franklin Assoc., 1988).

* level of the tax

As described in previous sections, economic theory shows that in order to fully capture externalities, the level of the tax must equal the marginal social cost of the polluting activity that the tax seeks to influence. In the case of solid waste the costs of disposal may be easier to measure than for other types of pollution. This is in part because municipalities must now pay for collection and disposal services; even if current payments understate the true costs of solid waste management, they at least provide a basis upon which full costs can be estimated. Economists working on solid waste issues have suggested a methodology for calculating marginal costs of disposal (Berkman and Dunbar, 1987). However, these costs are probably quite a bit higher than the $26/ton considered by Miedema, and much higher than the $7.50 per ton charge in H.R. 3737.

* basis of the tax

Most discussions of a packaging tax assume the tax will be based on the weight of material, with the possible exception of per-unit charges on rigid containers, because of ease of administration. However, this approach would probably favor the use of plastics, which have the lowest rate of recycling (less than 1% nationwide), compared to heavier materials like paper and metals. Another possibility would be to base the tax on the value of the material, an approach in place in some European countries.

* where the tax should be levied

Levying a tax at the point of final manufacture of a package makes the most sense from the standpoint of economic efficiency. However, for administrative reasons, most parties agree that administrative requirements dictate placing the tax much further upstream in the sequence of extraction, refining, manufacture and fabrication.

* phase in and exports

Economists studying the issue in the 1970s argued that a phase-in period of 10 years would be adequate to allow for adjustments in employment and product mix, especially since the solid waste system was not then in a state of crisis. Following this logic, increased pressure on solid waste management perhaps suggests that a shorter phase-in period would be acceptable. Newsprint mills currently undertaking retrofit investments to allow them to consume more recovered newsprint at existing virgin mills seem to require a planning and construction period of 2-4 years for these investments. Glass plants and linerboard and corrugated paper mills probably have the capacity to increase use of secondary materials on a somewhat shorter time horizon.

Based on European packaging taxes, exports of virgin materials covered by such a tax would probably be exempt from taxation. This provision would complicate administration somewhat. This issue was not dealt with in the EPA-commissioned studies.

* reallocation of revenues

As suggested above, the formula for reallocating revenues raised by the tax could have an important effect in increasing recycling. One possibility for redistributing funds would be to use a formula that incorporates local population or disposal costs. However, high disposal costs and high population density tend to be correlated, so this approach would favor urban over rural areas.

Another question is whether tax receipts should be used to offset disposal costs in general, or should be strictly allocated for recycling expenditures. At the local level, recycling has long been the victim of fiscal policies that favor public and private investment in landfilling and incineration.

For example, private firms that construct and operate solid waste incinerators are offered a broad range of public subsidies and contract provisions designed to substantially reduce private financial risk. These subsidies usually include long-term contracts, guaranteed delivery of waste, large tipping fees (disposal charges), free or low-cost land, assistance with ash disposal, large state grants, and contract clauses that pass various financial risks to the municipality.

In contrast, most recycling programs are funded on the uncertain and competitive annual municipal budget cycle, though this practice is changing. (For example, Seattle negotiates medium-term service contracts with private vendors that offer a package of recycling services. The City Solid Waste Utility includes the costs of recycling in the basic rate that citizens are charged for waste collection and disposal. Seattle also charges its residents for waste collection services based on the amount of material they place at the curb. Seattle currently has a 34% recycling rate, and is aiming for 60% by 1998.)

One recent survey found that 18 states in the Northeast currently propose to spend about $450 million on recycling compared to $7-8 billion on incineration in the next five years (Northeast-Midwest Institute, 1989). Investment bankers have suggested that, if funding mechanisms were available to public and private recyclers similar to those now available to other means of waste management, substantial private investment would be encouraged. In particular, investment bankers have indicated an interest in raising revenue bonds for recyclable materials processing plants, whereby operation and maintenance costs and repayment of the bonds would be guaranteed by a contractual municipal tipping fees, with revenues from the sales of materials split among participants on a formula basis (EDF, 1988). This analysis suggests that federal conditions on the reallocation of revenues to states and local governments could have a substantial effect in encouraging private investment in recycling.

INCENTIVES IN THE EXISTING TAX CODE

Federal Subsidies to the Production of Virgin Materials

The extraction of virgin materials is subsidized by a variety of federal programs and laws. These subsidies are the vestiges policies from the early 1900s, World War I and Wrold War II that sought to fuel economic growth by underpricing natural resources. Aside from general considerations of economic efficiency, such subsidies are of concern because they place recycled products at a competitive disadvantage with virgin products. The "garbage crisis" -- with its attendant focus on markets for recycled products -- is yet another signal that these subsidies have outlived their usefulness.

Subsidies to the timber industry affect the production of wood pulp for paper. Mining subsidies affect the production of steel, which requires iron ore, coal processed to form coke, and limestone; glass production uses glass sand (silicon dioxide), soda ash, lime or limestone, and feldspar or borax for coloration. Plastics are based on petroleum products. Aluminium is made from bauxite, 85 to 95 percent of which is mined overseas; almost all tin comes from outside the U.S. as well. Mining and refining all of these materials is highly energy-intensive.

Most of the economic analysis of the effects of these subsidies was completed in the 1970s. Recent work by Franklin Associates for the U.S. Congress Office of Technology Assessment estimates the extent of these subsidies. The U.S. Environmental Protection Agency has commissioned a more extensive analysis by Temple, Barker and Sloane, Inc., which is now in draft form.

CONCLUSIONS

The taxing power of the Federal governmental is a potentially powerful policy tool for the solution of environmental problems. In the simplest case, assessing user fees or taxes can be levied and those revenues dedicated to specific environmental purposes. As this testimony illustrates, however, it is significantly more complex to design and assess taxes whose function is to cause polluters to take account of their discharges and to adopt pollution abatement strategies in order to reach pre-specified environmental targets. In such cases, alternative economic instruments such as marketable permits are preferred for their certainty in attaining environmental goals. Nonetheless, taxes could be used in concert with other economic and regulatory tools in a suite of policies to achieve environmental goals. Lastly, the tax code itself contains provisions which induce environmental pollution through subsidies for natural resource extraction and use.

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Mr. GIBBONS. Thank you, Mr. Roberts.
Mr. Walsh.

STATEMENT OF BILL WALSH, LEGISLATIVE DIRECTOR, GREENPEACE ACTION TOXICS CAMPAIGN

Mr. WALSH. Thank you, Mr. Chairman.

My name is Bill Walsh, and I am the legislative director for the Greenpeace Action Toxics Campaign.

Greenpeace strongly supports the committee's effort to use its authority and expertise to develop a long-term strategy for improving environmental quality. Most environmental problems are at their core the consequence of misplaced economic priorities.

The Federal tax system must ultimately play a vital role in reducing the environmental deficit that we are passing on to our children, a deficit that can be measured in terms of global warming, depletion of critical water resources, and the toxic contamination of our bodies and our environment.

The committee's activities last year and the numerous specific proposals under consideration by the committee this year are positive responses to many of these vital issues. But the committee can and must do more than react to the growing list of serious environmental problems.

We are encouraged by the committee's request for long-term strategies, and we urge the committee to adopt a comprehensive proactive strategy to promote investment that is consistent with our national environmental goals. It's our view that the past 20 years of environmental regulation teaches that piecemeal, media-specific attempts to control environmental degradation cost a lot and don't work that well.

The EPA and many States are moving toward new various models of preventive strategies that are multimedia in their approach and put an emphasis on reducing pollution at the source.

We urge the committee to take note of this shifting approach and adopt a similar strategy, a comprehensive pollution prevention strategy. To facilitate this, we recommend that the committee establish a Subcommittee on the Environment. This would allow committee members to continue to develop their expertise in the evolving regulatory and economic approaches to environmental protection, and it would provide a forum that would invite greater systematic public participation on the issue.

The committee through such a subcommittee should evaluate the environmental impact of all future tax proposals and conduct a comprehensive review of existing tax laws and eliminate those which increase the environmental problems that we are facing today.

Finally, the committee should propose a long-term strategy for promoting reduced consumption of natural resources and reduced use of toxic substances.

Greenpeace believes that the common thread that is running through the various environmental problems that we face today is overconsumption. The Federal Tax Code rewards consumption; it undervalues durability of products, and it ignores the environmental degradation that reflects the true societal cost of goods.

This leads to excessive use of energy and natural resources at the front end of the cycle and the disposal crisis at the back end. Greenpeace believes that the key to a strong environmentally sound economy is a tax system that stimulates conservation, durability, and recycling across all sectors of the economy from energy and natural resource use through manufacturing, the use of the product, and ultimately through disposal.

Thank you for the time to present our views, and I will be happy to answer any questions that you have.

[The statement of Mr. Walsh follows:]

TESTIMONY OF

GREENPEACE ACTION

INTRODUCTION

My name is Bill Walsh. I am the legislative director for the Greenpeace Action Toxics Campaign. Greenpeace strongly supports the Committee's effort to use its authority and expertise to develop a long term strategy for improving environmental quality.

It is beyond debate that the scale of human activity since the industrial revolution has irrevocably altered nature and now threatens the very life support systems of our planet: its climate, drinking water supplies, the food chain. Contemporary economic theory does not recognize and, therefore, cannot correct the self-destructive course we have charted. To paraphrase one economist's recent assessment; modern economic theories seem oblivious to the realities of the time, moral concern is deemed too unscientific to matter and mere statements of fact are dismissed as alarmist. But the facts are alarming and carry heavy moral weight:

- millions of people will die during our generation from cancers due to radiation exposure caused by human induced destruction of the stratospheric ozone layer that was foreseeable and avoidable.

- hundreds more species of plants and animals will be killed off intentionally by human takeover of habitat before the end of the century, further perverting nature.

- synthetic toxic chemicals are now detectable in the body tissue of most Americans and in nearly 20% of the nation's drinking water systems.

- billions, perhaps a trillion pounds of toxic compounds are emitted into the environment by American industry each year, most of it with government approval.

This is a partial tally of the environmental deficit that looms over the future potential of our nation and our world. The federal tax system must ultimately play a vital role in attacking this deficit. Properly implemented, a long term environmental strategy integrated into the tax code will even produce an environmental dividend. This dividend can be measured in industrial efficiency and technological innovation that will be in heavy demand throughout the world, especially in the huge potential markets of developing nations.

The Committee has invited testimony on a variety of subjects. Many of the proposals under consideration by the Committee are positive reactions to environmental crises. Because more can and should be done, however, we strongly urge the Committee to

adopt a proactive strategy to promote a strong, sustainable economy.

The common thread that runs through seemingly diverse environmental problems is over-consumption. For example, in energy use, water consumption and waste generation (both solid and hazardous) the per capita demands of U.S. citizens vastly outdistance their contemporaries in other industrialized nations. Greenpeace believes that the key to truly preventive environmental protection and a sustainable economy is the same: a change in the current pattern of materials usage. By this we mean reducing consumption in general, reducing the use of toxic substances in particular, and recognizing, in an economic sense, the intrinsic value of nature.

The federal tax system today rewards consumption, undervalues performance and ignores true societal costs of goods. The environmental deficit cannot be tamed without reordering these priorities. Greenpeace recommends the Committee take the

following steps:

1) Establish a subcommittee on the environment. This would have two important consequences. First, it would create among committee members a number of specialists who could advise the full committee on the complex issues raised by the intersection of U.S. tax policy and national environmental preservation objectives. Second, it would provide a specific forum to encourage greater interdisciplinary work among environmentalists, industry and economists.

2) Instruct the subcommittee to conduct a comprehensive evaluation of the tax system and eliminate elements which contradict or interfere with the national environmental goals established in regulatory legislation.

3) Instruct that subcommittee to identifying proposals that provide incentives to maximize the utilization of resources and discourage rapid life cycles of materials. In other words, reduce the tax systems' support for over-consumption and increase support for the efficient use of materials over time. Reward durability over disposability.

The Chairman and this Committee earned the respect of the American public in 1985 by setting an ambitious course for tax reform, staving off attempts by many private interests to subvert the integrity of the process and, by virtue of strong leadership, achieving its stated goal. Greenpeace urges no less a commitment to environmental tax reform. Virtually every public opinion poll on the environment taken in the last five years suggests that the American public would respond to your call for support in such an endeavor.

I. The Need For A Subcommittee

Perhaps the only thing more complex than the U.S. tax code is nature itself. Our strongest recommendation is that the Committee establish a subcommittee with responsibility for assessing the impact of the tax system on national environmental goals.

As the Committee explores ways in which the federal tax system can be used to benefit the environment, it should be fully informed of the evolving approaches to environmental preservation. These are often interdisciplinary, incorporating scientific, economic and philosophical considerations. In order to develop a long term strategy in this complex and rapidly changing field, the Committee should delegate to a subcommittee the responsibility to give detailed consideration to environmental issues.

From a science perspective, 20 years of environmental protection programs has yielded a wealth of information about what works and what doesn't. There is universal agreement that future environmental regulation will abandon the media specific approach and adopt a multi-media approach. This paradigm shift in the field of environmental regulation should be instructive to the Committee as it develops its strategy. This point is addressed further in Part III below.

The enormity of the environmental problems our world faces today is also challenging the economic theories that have governed economic development since the industrial revolution. It appears that existing systems, without distinction among their capitalist or socialist leanings, are incapable of meeting the environmental challenges of our age. The effort to modify economic models to meet these natural challenges is the vanguard of the economics field today.

An environmental subcommittee would allow certain Committee

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members to develop expertise in current regulatory and economic approaches to environmental protection. This subcommittee would be best capable of recommending proposed goals and strategies for the Committee. It would have the ancillary benefit of providing a specific forum for the discussion of economic approaches to environmental protection. This would stimulate increased interdisciplinary work among environmentalists, industry and economists that would better inform future discussions of these issues.

II. Changing Patterns Of Materials Consumption

We are entering an era where the economic growth fueled by ever increasing consumption is beginning to impoverish rather than enrich human existence. We are making increasingly greater sacrifices of health and quality of life for increasingly trivial conveniences. The common thread that runs through seemingly diverse environmental problems is over-consumption. For example, in energy use, water consumption and waste generation (both solid and hazardous) the per capita demands of U.S. citizens vastly outdistance their contemporaries in other industrialized nations.

The existing tax system encourages excessive consumption by favoring economies of scale, artificial depreciation of property, and replacement over repair. We recommend the Committee develop a long term strategy for encouraging long term utilization of goods, husbandry of natural resources and greater autonomy of regional economies.

Many of the proposals put out for comment by the Committee are positive reactions to important environmental problems. For example, gas guzzler excise taxes, car pool and transit subsidies and reduced parking subsidies promise the benefits associated with reduced automobile usage. Similarly, the repeal of incentives for the harvesting of virgin materials and taxes on such materials use would promote the conservation ethic. Although there may be different points of view on the advisability of specific proposals, we believe that the Committee could construct an environmentally beneficial package out of the subjects under discussion today.

The weakness in these proposals is that they are reactive in nature and not integrated into a long term strategy strategy with with clear national goals. Many are sound responses to environmental issues that are currently languishing in regulatory subcommittees, e.g. clean air, global warming, the garbage crisis. They may help relieve the legislative gridlock that accompanies these difficult issues in committee. But they are not the foundation of a long term strategy for addressing the increasingly complex economic issues that make regulatory solutions so elusive.

For example, past efforts to reduce automobile air pollution have been negated by increases in automobile sales and vehicle miles traveled. The merits of the Committee's current proposals, especially regressive measures such as a fuel tax, are difficult to evaluate outside the context of a long term strategy that addresses the full range of tax mechanisms that influence national transportation policy. They are clearly not enough to offset continued support for a national transportation infrastructure that is heavily weighted in favor of road building, and offers little support to improved rail transportation and other innovative mass transit systems.

The Committee has the authority and expertise to address the fundamental economic issues which make up the core of environmental preservation. What is needed is a clear articulation of a long term goal and a strategy for reaching that objective.

Greenpeace believes that the key to a strong, environmentally

sound economy is a tax system that rewards maximum utilization of materials, i.e. natural resources and manufactured goods, and penalizes unnecessary consumption. From this will flow reduced consumption of energy, reduced generation of wastes and a more locally autonomous economies built around the efficient use and maintenance of materials in commerce.

Greenpeace recognizes that this proposal engenders fundamental shifts in the tax code. It would involve removing incentives for consumption such as artificial depreciation of assets, and would require eliminating some of the advantages of economies of scale. The goal would be an economy that does not sanction environmentally unsound production and disposal practices, but which instead thrives on the more efficient use of resources. It could also be used to spur development of autonomous regional economies. This would counteract the effects of fundamental societal adjustments, such as reduced coal consumption, that are absolutely essential to environmental preservation, but which disproportionately impact certain regions of the country.

II. Avoid Mistakes Of The Past

Greenpeace urges that the Committee study and avoid the consequences of a piecemeal approach to environmental protection. This has been the weakness of the existing regulatory regime, which chases symptoms (pollution) rather than the underlying causes of environmental destruction (improper use of materials). Today there are efforts underway at EPA and in several states to change course and move toward a multi-media pollution prevention strategy of environmental protection. The Committee should analyze these approaches and incorporate them into an environmental tax reform package.

The weakness of the current environmental protection regime can be summarized as follows.

1. The current approach favors pollution control, which has largely failed, over pollution prevention, which has largely worked.

The convoluted pollution control system which has evolved since 1970 is an expensive and largely ineffective means of environmental protection. Overall environmental quality has improved only slightly over the past twenty years, except in cases where the use of a targeted pollutant has been banned. For example, levels of airborne lead have declined 90% since lead was removed from gasoline. There have been similar reductions of DDT and PCBs in the environment since their production and use have been banned.

Greenpeace urges the Committee to introduce tax code modifications that deter the use of materials such as fossil fuels and toxics. An excise tax on virgin materials and feedstocks would promote this ideal. It would also be useful to provide industries with tax credits to subsidize the research and development of product and process innovation that reduce the use of natural resources and toxic substances. There is unanimous agreement among environmentalists, government and industry experts that planning is the key. Two states, Massachusetts and Oregon have enacted laws that require certain industries to develop toxics user reduction plans. Those laws provide the framework and definitions which the Committee could use as the basis for this type of subsidy.

2. Uncoordinated, media specific approaches to environmental protection frequently shift problems between environmental media, workers and the public.

Environmentalists, government officials and industry experts now recognize that media and chemical specific approaches to environmental protection frequently shift rather than reduce environmental risks. For example, Clean Water Act restrictions

on chemical discharges lead to increased incineration and air discharge of many chemicals that were regulated under the Clean Water Act, but not the Clean Air Act. Federal laws that target chemical emissions but do not address chemical inputs have resulted in some companies reducing "waste" by diverting toxic wastes into consumer goods.

We recommend that the Committee develop a means of encouraging actions that maximize environmental protection and prevent risk shifting. The best way to do this is to begin with a sound definition of pollution prevention, such as the following:

> changes in production processes, products or raw materials that reduce avoid or eliminate the use of virgin natural resources, toxic or hazardous substances, or the generation of hazardous by-products per unit of production, so as to maximize protection of the environment, workers and consumers without shifting risks between environmental media, workers or consumers.

The Massachusetts and Oregon toxics use reduction laws include definitions that closely track this model.

3. Pollution control incentives can establish "acceptable" levels of environmental destruction and undermine product and process changes that would break the current patterns of wasteful and dangerous materials usage.

Attempts at environmental protection that stop at pollution control can undermine more environmentally sound and economically efficient methods of environmental protection. Recycling of hazardous and solid wastes illustrates these concerns.

In the hazardous waste context, the term "recycling" has not yet been defined by the federal government. The term has been used to describe closed loop industrial processes that result in virtually zero pollution discharge. It has also been used to disguise unregulated burning of hazardous wastes for energy recovery. Promoting hazardous waste burning undermines research and development in toxics use reduction, i.e. materials substitution and process changes that maximize environmental benefit and are usually more cost-effective.

The Office of Technology Assesment has reported that Toxics Use Reduction is "rapidly becoming a broadly supported concept." It yields high environmental benefits and is usually highly cost effective. The Public Interest Research Groups (PIRG) have compiled a data base of companies benefiting from toxics use reduction programs. One of many examples is the 3M Company's Missouri microelectronics plant. According to PIRG:

> This plant produces flexible electronic circuits from copper sheeting. Before use, the copper was cleaned by spraying it with chemicals that generated hazardous waste. An equipment design change was implemented to replace the chemical cleaning process. A machine with rotating brushes now cleans the copper, reducing hazardous waste production by 40,000 pounds per year. This method of cleaning is applicable to industries manufacturing printed circuit boards and to industries requiring high quality cleaning of sheet metal.

Toxics use reduction lowers raw materials costs, waste disposal costs and liability concerns to industry while offering maximum protection to the environment and public health.

In the solid waste context, recycling is often suggested as a panacea to solve problems more effectively addressed at the point of materials production. For example, current efforts to recycle styrofoam and plastics will inadvertently perpetuate environmentally unsound materials usage. Because of their complex make-up, polystyrene and plastic products can rarely be recycled into new cups, plates or bottles. Instead they are

reprocessed to produce plastic lumber and filling material. In effect, plastics reprocessing does not reduce the energy or natural resource use associated with production, does not reduce the environmental damage associated with the production of petroleum based products, and further displaces natural materials in other markets, i.e. lumber and filling.

Beneficial solid waste recycling can be further undermined when linked to incineration programs. The operation of municipal solid waste incinerators requires a guaranteed trash flow. The EPA has proposed 25% as a national recycling goal. This would provide an incentive for substantial municipal solid waste incineration (i.e. up to 75%) despite its known health and environmental risks, such as uncontrollable mercury emissions. In response, several states and municipalities are considering bans on nonessential styrofoam, plastics and packaging.

Using the pollution prevention definition described above, the Committee could formulate a series of tax incentives and penalties that promoted sound materials usage. Broad based pollution taxes on the billions of pounds of hazardous chemicals released annually could underwrite incentives for pollution prevention planning. Taxes on packaging and materials reformulation could underwrite incentives for reusable and truly recyclable materials (such as paper) that have a beneficial impact on the entire cycle of materials usage.

IV. Reaping An Environmental Dividend

Greenpeace believes that if the Committee undertakes a comprehensive approach to stimulating environmental protection through more efficient materials usage it American industry will reap an environmental dividend. This dividend will be measurable in industrial efficiency and technical innovation that will be in heavy demand throughout the world in the foreseeable future. Methods of efficient materials use will be particularly marketable in developing nations that are struggling to balance efforts to raise domestic living standards while preserving their environment.

Industrial toxics use reduction programs have already produced dividends of this sort. For example, CLEO WRAP of Tennessee, the world's largest producer of gift wrapping paper has developed a water based that replace toxic inks and chemical cleansers. It can now market these inks. Similarly, the nonchemical cleaning process developed by 3M (described in the preceding section) is applicable to other industries involved in metals cleaning or circuited board manufacturing.

The committee should develop ways of using the tax code to stimulate research, development and marketing of nonchemical systems such as these. One way of doing so would be to reward industrial capital improvements that meet the definition of pollution prevention we have suggested above.

CONCLUSION

Greenpeace commends the Committee's interest in giving specific consideration to the environmental impact of the matters within its jurisdiction. We view many of the proposals the Committee has put forth for comment as positive steps. We urge the formation of a subcommittee with specific responsibility for: 1) evaluating the environmental impact of legislation pending before the Committee, 2) analyzing the impact of the tax system on national environmental goals and proposing elimination of elements that subvert those objectives, and 3) recommending a long term strategy for promoting reduced consumption of natural resources and toxic substances.

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Mr. GIBBONS. Thank you.
Mr. Lashof.

STATEMENT OF DANIEL A. LASHOF, PH.D., SENIOR SCIENTIST, NATURAL RESOURCES DEFENSE COUNCIL

Mr. LASHOF. Thank you, Mr. Chairman.

My name is Daniel Lashof. I am a senior scientist at the Natural Resources Defense Council.

NRDC has previously testified in support of the tax on ozone depleting chemicals that was passed as part of the Omnibus Budget Reconciliation Act of 1989.

In my statement today, I will focus on similar fees or taxes, and I will leave that to the committee to decide what to call them. I have no wish to join that debate. But fees or taxes that can reduce the related threats to the Earth's atmosphere of global warming, acid rain, and urban smog.

I will also touch briefly on fees that can help reduce threats to human health and pollution of surface and ground waters due to the release of toxic chemicals and excessive and inappropriate use of agricultural chemicals.

Recent events in Eastern Europe demonstrate the powerful appeal of markets as an efficient mechanism for allocating resources. Markets only produce socially optimal results, however, if consumers and producers are given the correct signals about the environmental impacts of their decisions. We, therefore, welcome and encourage the interest of this committee in providing these environmentally appropriate economic signals.

Let me emphasize, however, that the market incentives are an important complement to regulatory approaches, not a substitute for them. Because the environment has been largely neglected as our current infrastructure has been developed, price signals by themselves will be too weak to produce an adequate shift in the market and provide incentives to develop new technology.

We, therefore, believe that the most effective policies will generally involve a combination of regulations to establish maximum emission levels and/or rates or total emission loadings combined with economic measures that reinforce the regulations and provide an incentive to achieve more than the minimum requirements of the standard.

Let me turn now to a specific recommendation for an emission fee on carbon dioxide.

With the exception of total nuclear war, global warming may be the single most compelling example of an environmental externality ever identified. In few other cases does the environmental harm pretend to be so devastating to those who have contributed so little to its cause.

As of now, no energy technology's costs were in any way affected by its carbon dioxide emissions. The United States tolerates no other comparably flagrant and devastating failure to internalize environmental costs.

NRDC, therefore, advocates the phased introduction of a carbon dioxide emission fee on all fossil fuel consumption. Such a fee should be based on the carbon content of each fuel and should be

imposed where the fuel enters the economy. The emission fee should be rebated for fuel used as feedstocks and therefore not oxidized to carbon dioxide.

The emission fee should also be charged for net carbon dioxide emissions due to harvesting ancient forests and rebates should be offered for certifiable net increases in forest carbon storage.

Such a fee would be simple to administer, would be an important tool in reducing carbon dioxide emissions as well as smog, acid rain, and oilspills, and would raise substantial revenues.

Part of these revenues must be used to offset impacts on low-income families and disadvantaged sectors by reducing other taxes or increasing benefits, and part of the revenues may be used to invest in the development of advanced energy efficiency and renewable technology to make further CO_2 reductions possible. Billions of dollars would still be available for deficit reduction.

A carbon dioxide fee is an idea whose time has come. States are rapidly moving to reflect environmental costs in utility planning decisions. Wisconsin, Washington, and New York have recently ordered specific consideration of carbon dioxide emissions in ranking proposed utility investments and proceedings are underway in California, among other States.

Small carbon fees have already been imposed by Norway, The Netherlands, and Finland, and a substantial broad-based emission fee was proposed by the Swedish Government in January. If this proposal passes the Parliament this spring as is expected, it would tax carbon dioxide emissions at $41 per metric ton and sulfur dioxide emissions would be taxed at $4,900 per metric ton.

Overall tax levels would more than double for coal and increase 60 percent for gasoline, and it should be noted that their energy taxes are much, much higher than the current taxes in the United States already.

So, the billion dollar question for us, and it really is a multibillion dollar question, is, "How high should the fee be?"

In economic theory, we would like to base the fee on the environmental damage that is caused by the emissions and you should set the marginal defeat to the marginal damage function.

However, in practice, it's impossible to determine that level, certainly at this time, for carbon dioxide, and it may be impossible to ever really determine that number. Therefore, we believe, as has been adopted in California and New York, that the fee on carbon dioxide should be set in a way to promote specific emission reduction goals that should therefore be assessed relative to the cost of control.

Ultimately, the fee should rise to a level sufficient, in combination with other policies, to yield the required emission reduction of at least 50 percent. As a starting point, the fee should be sufficiently high to have an impact and raise substantial revenues.

We propose the cost of carbon sequestration in rural trees at $15 per metric ton of CO_2 as the basis for the initial fee level. This fee would initially raise approximately $68 billion and translates to about a 20-percent increase in the cost of natural gas and oil and almost a doubling in the cost of coal. However, it should be noted that coal would still cost much less per unit of energy than oil or gas.

In the long run the fee should be gradually increased to approximately $45 per metric ton of CO_2 over about 10 years.

Although carbon dioxide fees are a high priority because the emissions are currently totally unregulated, they are by no means the only environmental problem that could be usefully addressed with changes in the tax structure. The discussion on gasoline taxes that has gone on before points out one example which we certainly support raising gasoline taxes. Let me note just two other examples before concluding.

The toxics release inventory provides data on emissions of 325 chemicals under title 3 of Superfund. Air emissions alone amount to 2.7 billion pounds. This data system provides the full infrastructure and information necessary to impose emission fees on these compounds, and could be a very useful tool in promoting reductions and their use.

As a final example, we propose that Congress impose a tax on pesticides and fertilizers to encourage the development of environmentally sound alternative agricultural systems. A tax of just 1 percent on pesticides and fertilizers could raise tens of millions of dollars in revenues that would justify greatly expanded research on low-input sustainable agriculture at USDA.

Higher tax levels should also be considered to have a substantial impact on agribusiness behavior. Some States, notably Iowa, have already demonstrated success with agrichemical taxes, and we commend this approach to you.

In conclusion, Mr. Chairman, nobody likes taxes, but there is widespread support for the essential services the Government provides. We cannot indefinitely pass the bill for these services on to future generations. Given that revenue must be collected somehow, it makes eminent policy as well as political sense to do so in a way that promotes environmental goals.

Thank you.

[The statement of Mr. Lashof follows:]

Statement of

Daniel A. Lashof, Ph.D.
Senior Scientist
Natural Resources Defense Council

on

Environmental Emission Fees and Tax Incentives to Protect the Environment

before the

Committee on Ways and Means
U.S. House of Representatives

March 6, 1990

I. Background

Thank you Mr. Chairman and members of the Committee. I am Daniel Lashof, Senior Scientist with the Natural Resources Defense Council (NRDC). Previously I was an Environmental Scientist at the Environmental Protection Agency, where I was the lead author of the Draft Report to Congress Policy Options for Stabilizing Global Climate. I hold a doctorate in Energy and Resources from the University of California, Berkeley, where I specialized in the global carbon cycle. I appreciate the opportunity to appear at this important hearing.

NRDC is a non-profit environmental protection organization, founded in 1970 and supported by more than 125,000 members. In 1988 NRDC launched its Atmosphere Protection Initiative (API) to provide a coordinated response to the related threats to the integrity of the earth's atmosphere--global warming, ozone depletion, acid rain, and urban smog. This effort involves more than a dozen NRDC scientists, resource specialists, and attorneys expert in climate, energy efficiency, nuclear energy, forestry, agriculture, international environment, air pollution control, and coastal protection. NRDC has previously testified in support of the tax on ozone depleting chemicals that was passed as part of the Omnibus Budget Reconciliation Act of 1989. In my statement today I will focus on similar fees that can reduce the related threats to the earth's atmosphere. I will also touch on fees that can help reduce threats to human health and pollution of surface and groundwater due to excessive and inappropriate use of agricultural chemicals.

II. The Role of Market Incentives

Recent events in Eastern Europe demonstrate the powerful appeal of markets as an efficient mechanism for allocating resources. Markets only produce socially optimal results, however, if consumers and producers are given the correct signals and have the necessary knowledge and information to respond to these signals. The myriad environmental crises and threats we face today can, in large measure, be traced to the systematic failure of markets to reflect the environmental insults associated with each transaction. We therefore welcome and encourage this committee's interest in providing environmentally appropriate economic signals.

It is essential to emphasize, however, that market incentives are an important complement to regulatory approaches, rather than a substitute for them. Because the environment has been largely neglected as our current economic infrastructure was

developed, price signals by themselves will be too weak to produce an adequate shift in the market and incentive to develop new technology. Uncertainty about the future, inadequate information, inadequate competition (e.g., regulated monopolies, such as electric utilities), and inordinately high consumer discount rates[1] conspire to substantially dilute price signals. Furthermore, the environmental result of any given fee level cannot be gauged accurately in advance. For these reasons, we believe that the most effective policies will generally involve regulations to establish maximum emission rates and/or total emission loadings combined with economic measures that reinforce the regulation and provide incentives to achieve more than the minimum requirements of the standard.

The recently enacted tax on ozone depleting substances provides a useful example. A regulatory cap on total production eliminates uncertainty about the future of CFC technology and the maximum level of CFC emissions into the environment. Producers of CFCs therefore know that they must plan to phase-down production and invest in the development of CFC substitutes. The CFC fee was intended primarily to capture the windfall profit that would otherwise accrue to producers as prices rise in response to the constraint on CFC supply. At the same time the fee has the added benefit of encouraging both producers and consumers to phase-out CFCs more rapidly than they otherwise would. For producers the fee makes substitutes more profitable relative to CFCs, while consumers have an added incentive to conserve, recycle, or replace CFCs to the extent that the fee increases prices or reduces uncertainty about future prices from what they would otherwise be.

III. Carbon Dioxide Emission Fee

With the exception of total nuclear war, global warming may be the single most compelling example of an environmental externality ever identified. In few other cases does the environmental harm portend to be so devastating to those who have contributed so little to its cause.[2] As NRDC stated in a recent California proceeding:

> As of 1989, no energy technology's costs were in any way affected by its carbon dioxide emissions. The United States tolerates no other comparably flagrant and devastating failure to internalize environmental costs.[3]

In fact, a common sense desire to avoid tremendous risk dictates that we move now to reduce greenhouse gas emissions. Even those that feel global warming is improbable must reckon with the risk posed by the dramatic consequences of its occurrence. A bet with planetary stakes is a foolhardy one. How

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[1] Even when information is available in the form of appliance efficency lables, consumers are found to greatly discount future savings--by 65% per year in the case of refrigerators and 100% per year for water heaters. In other words, any additional up front costs would have to pay back within one and one-half years for refrigerators and one year for water heaters. Washington Post, (February 12, 1990) p. A3.

[2] One only need look to the Maldives and Bangladesh for evidence of this injustice. Both countries are threatened by rising sea levels with inundation of the majority of their populated land area, yet neither accounts for an appreciable fraction of global greenhouse emissions.

[3] R. Cavanagh, Statement before the Washington UTC (May 4, 1989) p. 3.

would we explain to our grandchildren our failure to respond to this threat for the sake of modest near-term monetary savings?

NRDC therefore advocates the phased introduction of a carbon dioxide emissions fee on all fossil fuel consumption. Such a fee should be based on the carbon content of each fuel and should be imposed where the fuel enters the economy. The emission fee should be rebated for fuel used as feedstocks and therefore not oxidized to carbon dioxide. The emission fee should also be charged for net carbon dioxide emissions due to harvesting ancient forests and rebates should be offered for certifiable net increases in forest carbon storage. This carbon sequestration rebate should be based on the average steady-state net increase in carbon storage guaranteed through a conservation easement.

Such a fee would be simple to administer, would be an important tool in reducing carbon dioxide emissions as well as smog, acid rain, and oil spills, and would raise substantial revenues. Part of these revenues must be used to offset impacts on low-income families by reducing other taxes or increasing benefits, and part of the revenues must be used to invest in the development of advanced energy efficiency and renewable technology to make further CO_2 reductions possible. Billions of dollars would still be available for deficit reduction.

The need for fossil fuel prices to more accurately reflect their environmental and social costs is increasingly recognized at the State level and in other industrialized countries. For example, States are rapidly moving to reflect environmental costs in utility planning decisions. Wisconsin, Washington, and New York have recently ordered specific consideration of carbon dioxide emissions in ranking proposed utility investments and proceedings are underway in California, among other States.[4] While using CO_2 emission levels as a utility investment selection criteria does not result in a tax actually being collected, it can have the same effect within the utility sector.

Broad-based emission fees were proposed by the Swedish Government in January. If this proposal is passed by the Parliament as expected this Spring, carbon dioxide emissions would be taxed at $41 per metric ton ($150 per metric ton of carbon) and sulfur dioxide emissions would be taxed at $4900 per metric ton. Although existing energy taxes would be somewhat reduced, overall tax levels would more than double for coal, and increase 60% for gasoline.[5] A carbon dioxide tax is also under consideration in the Netherlands to help achieve their goal of

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[4] Public Services Commission of Wisconsin, 05-EP-5, Findings of Fact, Conclusions of Law and Order (April 6, 1989). The Commission adopted a 15% "non-combustion credit," reflecting "the substantial costs which are associated with acid deposition, global climate change, and human health, but not reflected in the least-cost planning revenue requirements analysis" (pp. 11-12); Washington Utilities and Transportation Commission, Proposed Rule: Electric Companies -- Purchases of Electricity from Qualifying Facilities and Independent Power Producers and Purchases of Electrical Savings from Conservation Suppliers, (Chapter 480-107 WAC: second draft issued on June 7, 1989). The Commission stated that criteria used to rank project proposals must include "risks imposed on ratepayers and environmental effects including those associated with resources that emit carbon dioxide."; California Energy Commission Energy Facility Siting and Environmental Protection Division, Valuing Emission Reductions for Electricity Report 90, (November 21, 1989). This discussion paper also cites the New York Department of Public Service imposition of a 0.1 cents/kWh penalty for carbon dioxide emitting power sources.

[5] Swedish Ministry of Environment and Energy, February 6, 1990.

stabilizing emissions at 1989-1990 levels by 1994-1995 and achieving significant emission reductions by 2000.[6] A carbon dioxide tax is also likely to be proposed in Germany when the Enquette Commission of the Parliament reports later this year.

The billion dollar question is, of course: How high should the fee be? There is not currently, and may never be, enough quantitative information about the impacts of global warming to base a CO_2 emissions fee on damage estimates. Several studies suggest, however, that the overall value of the environmental externalities associated with fossil fuel production and use are substantial: roughly similar to current market prices.[7] In the absence of sound estimates of the damage resulting from each unit of CO_2 emissions, we endorse the approach adopted in California and New York of basing the emissions fee on control costs.

The cost of carbon dioxide controls can be bounded with some confidence. It is limited at the top by expensive mechanical absorption and sequestering processes (with costs that may exceed 70 to 100% of a coal-fired power plants capital costs)[8], and at the bottom by urban trees and those energy efficiency measures with negative social costs.[9] Ultimately the fee should rise to a level sufficient, in combination with other policies, to yield the required emission reductions of at least 50%. As a starting point the fee should be sufficiently high to have an impact and raise substantial revenues. We propose the cost of carbon sequestration in rural trees, at $15 per metric ton of CO_2 ($55 per metric ton of carbon),[10] as the basis for the initial fee level. This fee level would initially raise approximately $68 billion (not adjusted for demand reduction)[11], and translates to

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[6] B. Metz The Dutch Policy on Global Warming, Testimony for the Standing Committee on Environment, House of Commons, Ottawa (January 23, 1990).

[7] O. Hohmeyer, Social Costs of Energy Consumption: External Effects of Electricity Generation in the Federal Republic of Germany, Report prepared for the Commission of the European Communities by Fraunhofer-Institut fur Systemtechnik und Innovationsforschung, (Springer-Verlag, Berlin, 1988); P. Chernick & E. Caverhill, The Valuation of Externalities from Energy Production, Delivery, and Use: Fall, 1989 Update, (PLC, Inc.: December 12, 1989).

[8] M. Steinberg, H. Cheng & F. Horn, A Systems Study for the Removal, Recovery and Disposal of Carbon Dioxide from Fossil Fuel Power Plants in the U.S., (U.S. Department of Energy, December 1984). These costs assume that power plants are located near the ocean and that disposal by injection into the deep ocean is environmentally acceptable -- a questionable assumption.

[9] Negative social costs result when the attendant benefits of CO_2-reducing conservation programs, such as avoiding the cost of a new power plant and preventing its non-CO_2 emissions, exceed the cost of implementing the conservation programs. Many simple lighting retrofits fall into this category. See, e.g., F. Krause and J. Koomey, Unit Costs of Carbon Savings from Urban Trees, Rural Trees, and Electricity Conservation: A Utility Cost Perspective, (Lawrence Berkeley Laboratory: August 4, 1989).

[10] California Energy Commission Energy Facility Siting and Environmental Protection Division, Valuing Emission Reductions for Electricity Report 90, (November 21, 1989), p. 10.

[11] Based on 1987 U.S. CO_2 emissions (calculated from fossil fuel consumption adjusted for use as feedstocks) of 4.5 billion metric tons from G. Marland, and T. Boden, "Carbon Dioxide Releases From Fossil-Fuel Burning," Statement before the Senate Committee on Energy and Natural Resources, (July 26, 1989) .

about a 20% increase in the cost of natural gas and oil, and not quite a doubling in the cost of coal, although coal would still cost much less per BTU than oil or gas.

In order to obtain at least a 50% reduction in CO_2 emissions in the long-run, the emission fee should be gradually increased to $45 per metric ton of CO_2 ($165 per metric ton of carbon) over 10 years.[12] As the CO_2 emission fee rises it would be necessary to prevent a shift in the production of energy intensive goods to countries that have not adopted equivalent CO_2 reduction programs. This can be accomplished by taxing imports and subsidizing exports of energy intensive goods based on the average CO_2 fee paid per unit produced in the U.S.

Note that the fee level required to produce a given behavioral shift does not represent the social marginal cost of emission reductions because it includes the "push" needed to overcome the market failures outlined above. Indeed, numerous studies demonstrate that there are large opportunities to reduce emissions, particularly through energy efficiency, with measures that reduce social costs, but which are not currently selected due to systematic market failures.[13]

IV. Other User Fees

Although carbon dioxide fees are a high priority because emissions are totally unregulated at present, CO_2 is by no means the only environmental problem that could be reduced through appropriate tax incentives. U.S. gasoline prices, in particular, fail to reflect the costs of transportation infrastructure and oil import dependence, in addition to carbon dioxide emissions. U.S. gasoline prices are not at their lowest point in real terms since 1973, and are dramatically lower than in other major industrialized countries: They are about half of prices in Germany and only one-fourth of those in Italy. A carbon dioxide fee even at the highest proposed level of $45 per metric ton would increase gasoline prices by only about 40 cents per gallon, leaving U.S. prices much lower than those in Europe and Japan. An additional tax on gasoline and diesel fuel to raise the total tax to $1 per gallon would be fully justified on environmental and energy security grounds.

Even with such a gasoline tax, the incentives for consumers to purchase highly fuel efficient vehicles would be quite weak because gasoline costs would remain only a small fraction of the costs of owning and operating a vehicle, and because consumers focus heavily on up front purchase prices, neglecting life-cycle fuel costs. This problem can be overcome by applying a revenue-neutral gas guzzler tax/gas sipper rebate to the purchase price of the vehicle itself. A schedule of escalating fees and a rising efficiency baseline, as proposed in the Wirth and Schneider global warming bills, would create a powerful incentive for industry to develop and market very efficient vehicles.

Tax incentives can also be a powerful tool outside of the energy area. For example, Congress should impose a tax on pesticides and fertilizers to encourage development of environmentally-sound, alternative agricultural systems. In particular, wider adoption of farming alternatives that reduce agrichemical use hinges partly upon expanded research and field demonstrations. Such programs have been sorely underfunded; in recent years, less than 1 percent of USDA's billion-dollar

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[12] See W. Nordhaus, "To Slow or not to Slow: The Economics of the Greenhouse Effect" (February 5, 1990), Figure 5.

[13] See R. Cavanagh, Global Warming and Least-Cost Energy Planning, Annual Review of Energy 14(1989):353-373.

research budget has gone toward the Department's low-input, sustainable agriculture ("LISA") initiative.

A tax of just 1 percent on pesticides and fertilizers could raise tens of millions of dollars in revenue that would justify a greatly expanded LISA program and other worthwhile endeavors such as various Integrated Pest Management programs administered by USDA. Higher tax levels designed to directly influence agribusiness behavior should also be considered. Some states, notably Iowa, have demonstrated success with the agrichemical tax approach in support of alternative agriculture. With ground water protection and other natural resource issues gaining prominence within the 1990 farm bill, the time is ripe for the federal government to adopt creative tax strategies on behalf of a clean, healthy rural environment.

V. Conclusion

Nobody likes taxes, but there is widespread support for the essential services that government provides. We cannot continue indefinitely to pass the bill for these services on to future generations. Given that revenues must be collected somehow, it makes eminent policy as well as political sense to do so in a way that promotes environmental goals.

Mr. GIBBONS. Thank you.

Does the committee have any questions?

Mr. Cardin.

Mr. CARDIN. Just very briefly.

First, I want to compliment all three of our witnesses for their excellent testimony. It really carries out the purpose of this hearing as we look at long-range policies for the environment and the use of the Tax Code.

Mr. Lashof, you have talked about your global-warming priority which is certainly one of the critical issues that we face.

Mr. Roberts, I was particularly impressed by the analysis that you gave on the philosophical issue, the use of the Tax Code, and getting down to the practical reality of whether it will work or not. I must confess I'm having a little bit of trouble reading some of your charts in your statement, but I'll study that, and maybe it will come to me.

Mr. Walsh, you point out we are entering an era where the economic growth fueled by ever-increasing consumption is beginning to impoverish rather than enrich human existence, and I think that is absolutely correct.

I guess I would like Mr. Roberts and Mr. Walsh to set some priorities for us.

Knowing the limitations of the Tax Code, how would you reverse some of our consumption patterns to have the best impact on our environment in the next 5 years?

Mr. ROBERTS. Let me tackle that on a couple of fronts, and I don't want to tread on NRDC here, because I think the comments regarding CO_2 taxes are important. I think that at least from our perspective two of the most important issues that we face relate both to global warming and climate change generally, and then much more close to home is our garbage problem, which is reaching crisis proportions nationwide.

I think as far as the first goal, you see a lot of results, at least in parts of the Clean Air Act, and hopefully we'll see more results as the process continues here in Congress to achieve real reductions in the precursors of problems that we experience in our atmosphere.

I suspect that the Tax Code can lend a hand there not only as it has with the CFC tax but also with the potential for other taxes on CO_2 emissions.

I think as it relates to garbage, and solid waste problems generally we have to get out of the habit of treating this as a throwaway society, and that means bringing the costs of throwing that product away back into the system so that manufacturers of products and consumers of products understand and bear the cost of throwing away those products.

And I think an ancillary argument, as I brought out in my testimony, was that we have to go into the Tax Code and ferret out what may be dated provisions of the Tax Code that served other purposes many years ago that now serve as a disincentive for us to recycle or use secondary materials, particularly the benefits that are provided in the Tax Code in the form of tax subsidies for virgin materials should be closely examined.

And I suspect that at least from what we heard from EPA this morning and the Treasury Department that's a possibility.

So I think that there's a number of avenues that don't require imposing any new taxes, if you will, but taking away some of the tax benefits that have skewed the system more to harm the environment than to help it.

Mr. CARDIN. Thank you.

Mr. Walsh.

Mr. WALSH. I would urge the committee to be sensitive to some of the lessons that the Environmental Protection Agency and the environmental community as a whole have learned over the past 20 years, and that is when you do go after media-specific approaches to controlling the problem you end up shifting the problem around rather than finding ultimate solutions, and therefore, we found that under the Clean Water Act, for example, certain water discharges that were prohibited ended up as air discharges through incineration or boilers because they were not regulated under the Clean Air Act.

That's why our strongest recommendation was that the committee really focus on the consumption patterns in general.

In addition to what Mr. Roberts was saying, I would take a look at some of the planning going on in industry now toward the reduced use of toxic chemicals.

Dr. Lashof mentioned the TRI inventory out of the Superfund law. That has spurred many companies to take a comprehensive look at their materials usage. Oftentimes, the tax benefits of adding pollution control equipment and being able to depreciate the costs outweigh the tax benefits of internal production of process changes that would actually reduce the use of the toxic chemical, change the nature of the products, making it easier to recycle, and more easy to dispose of wastes.

So I think that, although I am not a tax specialist or an economist, if you look at the results that you are trying to achieve, I think you could find ways of turning the focus from pollution control to truly preventative measures.

And finally, I think you could look at the depreciation of assets and find a way to promote improvements in processes that support clean technologies rather than just pollution control once again.

Mr. CARDIN. Thank you.

Chairman ROSTENKOWSKI. Thank you, Mr. Chairman.

I think we all agree that recycling is going to be the answer to our garbage problem, or at least a part of the answer, isn't it?

Let me ask you, do you have any information on how an imposition of a carbon tax would affect the coal industry?

Mr. LASHOF. It is clear that an imposition of the carbon tax would have a significant impact on the coal industry, that the tax on coal in comparison to the current price of coal is much larger than the tax on the other fuels in comparison to their current prices.

I think that the revenues that are raised are more than ample to provide funds that can ease a transition in coal-dependent regions to reduce their dependence on that industry for economic output. We are talking about for the initial level of the tax $68 billion, and there is no doubt that when you get serious about addressing the

global-warming issue you have to face up to the fact that if you are going to do anything about it, it is going to have a negative impact on the coal industry, and the question is, are we going to hold the world climate-hostage to the special interests of a small group of people?

I am not saying that we should neglect their interests. I think that it is essential that we address those interests in a forthright manner and deal with them, and that would if you raised the tax to a level where we were substantially reducing CO_2 emissions that would imply probably a reduction, certainly not the kind of substantial growth in coal output that the industry would like to see, and that issue should be addressed.

Chairman ROSTENKOWSKI. How do you feel about cost-sharing? We've got a situation here where we are bailing out some savings and loan associations and it's costing us a tremendous amount of money.

The problems are probably narrowed down to four or five States, and yet every one of us is going to suffer the imposition of a larger deficit and the bailout is near $200 billion already.

We come in with an environmental bill out of the Senate that is going to be devastating to the Midwest. If the devastation is going to be so severe and we are willing to bail out as a nation four States, shouldn't all the States then feel an obligation of helping us in an environmental whatever you call it, fee, duck, quack, whatever you call it? Shouldn't we all feel that that's an obligation that we should all share?

Mr. ROBERTS. Let me hazard into this area.

I think that one of the things that's important to keep in mind is that at least, as it comes to this acid rain provision in the Air Act, the utilities involved earn allowances for emissions reductions they make below what the law requires, and by most estimates the utilities that stand to benefit most from earning those reductions are utilities in the Midwest, so that the system that is already in the bill provides for a mechanism to provide funds, if you will, in the form of a subsidy through this allowance system to utilities in the Midwest who will be the ones making the largest reductions in their emissions.

I think also that the notion that, as I said in my opening remarks and the testimony, that the key here is environmental results, and I think that from our standpoint as long as we have achieved real reductions in emissions then I think that however the Congress chooses to allocate the costs is a political decision to be made amongst yourselves.

I think, though, the key is to preserve the integrity of the environmental goals and the environmental results that are set forth in the proposal so far.

Chairman ROSTENKOWSKI. Well, given our severe budget deficit problem, do you think that imposing environmental taxes in an attempt to defer pollution-causing behavior can be an effective alternative to tax incentives?

Mr. LASHOF. I certainly think that it is. I certainly think that imposing environmental taxes is a very good alternative to tax incentives because in addition to providing a clear signal on the relative benefits of, say, fossil fuels, their environmental impact compared

to solar energy, a tax on fossil fuels also creates a general incentive towards energy efficiency, which is highly beneficial in its own right, and so rather than, if the goal of any particular tax proposal is to create a relative incentive for a new technology, such as alternative fuels, solar energy, et cetera, that result can be achieved either by providing a tax incentive for those fuels or by raising taxes on the other fuels that you want to put at a relative disadvantage to the environmentally benign ones.

So, I think it is a very effective means of doing it. It raises revenues and has the same environmental results.

If I could just comment briefly on a previous question. I think that that's a very good point. As far as we are concerned, it is the environmental results that matter. I think there is a great danger in using the distributional issue as an argument for providing perverse incentives, such as it is always the argument raising fuel taxes, for example, gasoline taxes, that there is a disincentive, or that there is a disproportionate damage to poor people, and I think that that is a very valid concern.

However, it is much more beneficial if we can address that concern directly, if we can provide a signal in the prices of energy and other environmentally damaging behavior that is a signal to everyone that reflects the true cost of using that material and address poverty problems with poverty programs, not by mortgaging the environment.

Mr. WALSH. I think if you are looking for a quick infusion of cash into the Treasury you could tax the toxic chemical emissions that are now being documented under various laws.

The Office of Technology Assessment is estimating that they are getting near a trillion pounds per year. Some States have inquired as to whether you could use taxes on chemical emissions as disincentives for the chemical use or disincentives for the emissions and found out the tax would have to be very high. A fairly low tax would not provide an incentive for discontinued use.

It would send a strong signal, it would raise revenues, and hopefully encourage some activity in the right way, but we think we need a larger, more comprehensive plan for also providing incentives for companies to move toward reduced consumption, reduced use rather than simply trying to collect their emissions at the end of the pipe and then creating a disposal problem with their collection.

Chairman ROSTENKOWSKI. Thank you.

Mr. GIBBONS. Following up on that, if we put a very high tax on here, don't we just drive plants to other locations?

Mr. WALSH. My understanding is that the environmental regulations and the costs associated with them are not one of the major cost factors that companies look at when they choose the location of their plants. Labor happens to be one of the larger costs.

But I think you can spur a lot of technological innovation, a lot of economic investment in new cleaner technologies that have huge potential for marketability especially in developing nations that are really up against the wall when they look at the need they confront to raise the standard of living in their society and at the same time preserve their own natural resources, preserve their own quality of life, and increasingly find themselves in internation-

al fora where they are negotiating with developed nations over the world——

Mr. GIBBONS. Mr. Walsh, as I go around the world, and I go around a lot, I notice that our environmental protection is much higher here than it is in Japan, for instance, a very prominent competitor of ours.

And I just don't want to be in the position of driving any more industry overseas, an offshore production of jobs. I want a cleaner globe, and I am sure you do too, and I guess what I'm trying to say is that we have to be careful about, use some discretion when we start levying these fees or taxes, or charges. That's the only—it doesn't make our globe any cleaner if we drive all industry out of the United States to some other source of production.

Mr. WALSH. Again, my belief is that environmental regulations and the cost associated with regulations and environmental fees, and so forth, are not the cause of businesses going to other countries, and I do think that you——

Mr. GIBBONS. Well, they aren't yet, but they could be, couldn't they?

Mr. WALSH. I think you could also combine any kind of a regulatory stick in that manner or a tax penalty for pollution with incentives for moving into cleaner technologies, reduce consumption, and so forth; and I believe there is already a growing body of evidence, that there are companies that are thinking in those terms are finding that they can export that technology around the globe.

Mr. ROBERTS. Mr. Gibbons, I'd also like to point out that I don't think the answer to a competitiveness problem is necessarily to have less adequate environmental protection here at home. I mean, sure, this committee has jurisdiction over trade matters and other such tariff matters, and it would be appropriate, I think, if in the course of a long-range review of environmental issues to examine the questions associated with balancing out the trade issues associated with environmental compliance, if in fact there are significant and specific industries.

Mr. GIBBONS. The only trouble there is we can't unilaterally change our tariffs without having to pay additional costs. We are bound under a worldwide agreement on our tariffs and trade policy. There is just no free lunch there. We can't act unilaterally without paying the cost. If we decide some product from, say, Japan, or something is environmentally damaging the world's environment and therefore we are going to increase the tax, we are going to have to pay a penalty, that is the problem.

Mr. ROBERTS. I think that's a good point. I think that one of the things to keep in mind here is that once again we are trying, at least conceptually to bring the costs of the damage to the environment inside the system so that we clearly would recognize the trade practice that is violative of a trade practice, if a country subsidized a business to produce cheap products.

If they are similarly subsidizing by allowing that business to pollute their environment, we might be able to make a case that that too is inappropriate.

Mr. GIBBONS. Well, that's interesting. I'm not a foe of what you're trying to do. I'm just trying to see some of the problems that would come up along those lines.

Mr. WALSH. I would urge you also, Mr. Gibbons, to pay attention to the negotiations that are now ongoing on the GATT Agreement because they do have serious environmental implications along the lines you are suggesting where they would actually give a benefit to the country with the least environmentally protective program in place.

Mr. LASHOF. Another option which I think Roger Dower will introduce in testimony later is for industries that are facing a competitiveness problem as a result of the environmental tax or fee, rather than rebating that environmental tax that industry could be subsidizing in another manner which would not jeopardize the environmental result but would still make that industry competitive in that export market if that were essential. I think that's an idea that merits a great consideration.

Mr. GIBBONS. We can't subsidize. If we do we are going to be penalized; our products will get penalized. Everybody has antisubsidy laws, and some would love to enforce them against our products. That's the problem.

Well, this whole thing is very complicated. You have brought up some good questions and you have stirred some imagination here. I really think on this current round of the GATT negotiations we are too far into them to change the ground rules right now. We are having a hard enough time with what we have.

But certainly for future negotiations, this is a consideration that we ought to take into consideration, and I am sure there will be future negotiations.

Mr. Anthony, do you have questions?

Mr. ANTHONY. No questions.

Mr. GIBBONS. Mr. Chairman, could I turn this back to you?

Chairman ROSTENKOWSKI. Mr. Cavaney, Mr. Huard, Mr. Gifford, Mr. DiBona, and Mr. Snyder.

Welcome, gentlemen, to the committee. You all know what the rules are here. Your entire statement will be included in the record. If, however, it is longer than 5 minutes, we suggest that you summarize and give us an opportunity at the conclusion to ask you some questions.

Mr. Cavaney, you will begin the testimony. If you're ready, we're ready.

STATEMENT OF RED CAVANEY, PRESIDENT, AMERICAN PAPER INSTITUTE; ALSO ON BEHALF OF NATIONAL FOREST PRODUCTS ASSOCIATION AND FOREST INDUSTRIES COMMITTEE ON TIMBER VALUATION AND TAXATION

Mr. CAVANEY. Thank you, Mr. Chairman.

My name is Red Cavaney. I'm president of the American Paper Institute. I am testifying today on behalf of our members and on behalf of the National Forest Products Association and the Forest Industries Committee on Timber Valuation and Taxation.

Combined, our three associations represent the full range of the forest products industry. We are proud of the efficiency with which our industry operates. Our nursery and silvicultural practices are the most advanced in the world; our paper and saw mills conserve significant amounts of energy by use of wood waste and wood resi-

dues as fuel; and, on the paper side, we note with pride that paper and paperboard account for more than 80 percent of all postconsumer material collected in this country for recycling.

Given the time limits, I will omit any discussion of several points of interest to our industry which were cited in the committee's announcement of these hearings.

Accordingly, please refer to our written statement for our views on point 2, involving ozone and forest growth; point 5b, on ground water source pollution, and point 9, on tropical timber imports.

I am also taking the liberty of separating point 10 into two points, one involving ways in which the Federal Government can encourage recycling and the other involving the question of denying deductions for the harvesting of virgin materials, for example, old growth redwoods.

I note the committee is seeking ways in which the Federal Government can encourage recycling. With 300 years of recycling behind it, the U.S. pulp and paper industry has an impressive record of utilizing waste paper as a raw material in the manufacture of new paper and paperboard. The domestic paper industry is rapidly expanding its recycling capacity in direct response to increasing supplies of waste paper and in increasing market demand for recycled products.

In fact, a recent industry survey indicates that over the next 3 years the rate of waste paper consumption as the industry's raw material resource will grow twice as fast as virgin fiber.

The U.S. paper industry is spending billions of dollars to achieve its recently announced goal of 40 percent wastepaper recovery for recycling by the end of 1995. This national goal means that 40 million tons of wastepaper will need to be recovered for recycling, an increase of approximately 50 percent over today's levels.

Thus, we find that the marketplace is already efficiently expanding the use of wastepaper. In fact, the long-range paper recycling challenge is not demand, it is wastepaper supply. A proposed tax on virgin fiber production is a misdirected incentive in an area where it is not needed. Moreover, it would hinder efforts now underway to expand paper recycling because it would draw resources away from many of the manufacturers counted on to make the capital investments to develop new recycling capacity.

Government actions should focus on the separation and collection of high quality wastepaper from the solid waste stream. It is by focusing on improving the quality of wastepaper collected and not through a virgin fiber tax that policymakers can best concentrate their efforts to assure continued gains in paper recycling.

The committee has also suggested a tax on the emissions of sulfur dioxide and nitrogen oxide. The evaluation of any attempt of a tax on emissions of SO_2 and NO_x must begin with an understanding of recent progress, current developments and the cost-effectiveness of alternative approaches.

On the national level SO_2 emissions decreased by 20 percent between 1977 and 1986. SO_2 emissions from the forest products manufacturing facilities decreased 21 percent between 1980 and 1985, and the reduction trend is continuing.

On average, the SO_2 emission rate for our industry's boilers is already well below the national Federal new source performance

standards, and we fully expect the overall emissions have declined by at least another 10 percent between 1985 and 1989.

Between 1972 and 1988, the paper industry reduced its average use of fossil fuels and purchased energy per ton of output by more than 43 percent. The industry's use of self-generated and residue sources of energy is now in excess of 50 percent of its total energy consumption.

Because industrial facilities are now operating at or below the emissions rates allowed by Federal and State standards, the environmental benefits from a tax on these emissions would be at best marginal.

The committee has raised the issue of denying deductions for harvesting virgin materials, for example, old growth redwoods. The forest products industry from individual tree farmer to major corporation plants approximately 6 million trees each day. They do this with the knowledge that trees are a renewable resource and with the expectation that these trees will one day be harvested and then used and reused in a number of ways by the American public.

But it is important to note that to increase the tax cost of virgin materials, in this case timber, either by the imposition of an excise tax on the harvest or by denial of deductions, is neither an effective nor a desirable way to encourage recycling. Nor, I might add, would it serve to enhance the growth of today's privately owned forest lands.

In fact, rather than tax the harvesting of trees, we would recommend, as we have previously in testimony before this committee, that the Congress enact a capital gains tax rate differential, including timber as an eligible asset. We believe that such a tax would provide a significant incentive to further tree plantings, and thus increase this renewable and reusable resource.

In addition, the environmental benefits of a capital gains rate have been recognized and endorsed by several major environmental groups.

On behalf of the forest products industry, Mr. Chairman, we thank you for allowing us to appear before you today.

[The statement of Mr. Cavaney follows:]

TESTIMONY OF RED CAVANEY
REPRESENTING THE
AMERICAN PAPER INSTITUTE
NATIONAL FOREST PRODUCTS ASSOCIATION
FOREST INDUSTRIES COMMITTEE ON TIMBER VALUATION AND TAXATION

BEFORE THE
HOUSE WAYS AND MEANS COMMITTEE
U.S. HOUSE OF REPRESENTATIVES

MARCH 6, 1990

Mr. Chairman, I am Red Cavaney, president of the American Paper Institute (API). I am testifying today on behalf of API, the National Forest Products Association (NFPA) and the Forest Industries Committee on Timber Valuation and Taxation (FICTVT). Combined, these three associations represent the full range of the forest products industry -- including those who plant, grow, and harvest trees, and who use those trees in the manufacture of wood and paper products.

The forest products industry is pleased to have this opportunity to testify. As I am sure you realize, many of the points raised in the Committee's announcement of these hearings directly affect the industry. As my testimony will discuss, our industry is vitally concerned with the passage of legislation that will enhance our ability to plant trees, manage those trees in a productive manner, and to harvest those trees for use in products used by nearly every American on a daily basis. We are proud of the efficiency with which our industry operates -- our nursery and silvicultural practices are the most advanced in the world; our paper and saw mills conserve energy by use of wood waste and wood residues as fuel; and, on the paper side, we note with pride that paper and paperboard account for more than 80 percent of all post-consumer material collected in this country for recycling.

I will now address several of the specific points raised in the Committee's announcement of these hearings.

<u>Ways in Which the Federal Government Can Encourage Recycling</u>

With 300 years of recycling behind it, the U.S. pulp and paper industry has an impressive record of utilizing waste paper as a raw material in the manufacture of paper and paperboard. The domestic paper industry is rapidly expanding its recycling capacity in direct response to increasing supplies of waste paper and increasing market demand for recycled products. In fact, a recent

industry survey indicates that, over the next three years, the rate of waste paper consumption will grow twice as fast as virgin fiber as the industry's raw material resource.

In 1988, 26 million tons of waste paper were collected in the U.S. and subsequently made into various grades of paper and paperboard at U.S. recycling mills or exported to recycling mills in foreign countries. Of the total apparent U.S. consumption of paper and paperboard (production plus imports minus exports), 30% was collected for recycling domestically and abroad.

The U.S. paper industry is spending billions of dollars to achieve even greater gains in paper recycling during the 1990's. The industry has just announced a national goal of 40 percent paper recovery for recycling by the end of 1995. This national goal means that 40 million tons of waste paper will need to be recovered for recycling, an increase of approximately 50 percent over today's levels. Thus we find that the marketplace is efficiently expanding the use of waste paper.

A tax on virgin fiber production would actually be counterproductive. The concept of a virgin materials tax as applied to virgin fiber fails to recognize that paper is a unique raw material made from a renewable resource. As waste paper is successively recycled, the paper fiber is weakened and shortened. A continuous infusion of virgin fiber into the raw material stream is therefore necessary. A virgin material tax will only serve to penalize needed virgin production, a penalty that could be felt by all consumers.

Furthermore, a tax on virgin fiber production would hinder efforts now underway to expand paper recycling because it would draw resources away from many of the manufacturers counted on to make the capital investments to develop new recycling capacity. And these manufacturers, by already increasing their consumption of waste paper and by their commitments to future expansion, are today demonstrating that such a "tax penalty" is unnecessary and would increase the cost of production.

For the record, a $7.50 per ton tax on virgin fiber (as has been proposed in HR 3737) would add at least $460 million in annual new taxes to the pulp and paper industry. Beyond the drain on available capital, the tax would have a significant negative impact on the competitiveness of domestic paper and paperboard products in both U.S. and foreign markets. Untaxed imports would have an unfair advantage, and taxed U.S. paper exports could become uncompetitive vis-a-vis overseas products consisting largely of virgin fiber.

In addition, the desired market impact of the tax cannot be predicted because there is no relationship between the $7.50 per ton tax and the virgin material subject to the tax. Some products

may bear an excessive tax burden while others may bear little or no tax at all.

Clearly, the paper industry's concern over the per-ton tax on virgin materials cannot be construed as opposition to recycling -- particularly given the industry's commitment to pursue a 1995 goal of 40 percent waste paper recovery and reuse. Rather, our experience tells us there are more effective approaches to expand our utilization of waste paper. Government actions should focus on the separation and collection of high quality waste paper from the solid waste stream. In order to meet domestic and foreign demand, the collection rates for the major waste paper grades, except mixed papers, will need to reach what may be their practical maximum levels by 1995. We are encouraged by legislative proposals which call on the states to develop solid waste management plans, incorporating recycling as a prominent waste management strategy. It is by focusing on improving the quality of waste paper collected and not through a virgin fiber tax, that policy makers can best concentrate their efforts to assure continued gains in paper recycling.

A Tax on Emissions of Sulfur Dioxide and Nitrogen Oxide

The evaluation of a proposed tax on emissions of sulfur dioxide (SO_2) and Nitrogen Oxide (NOx) must begin with an understanding of recent progress, current developments, and the cost effectiveness of alternative approaches.

On the national level, SO_2 emissions decreased 20% between 1977 and 1986 despite an increase in use of coal and petroleum products. SO_2 emissions from forest products manufacturing facilities decreased 21% between 1980 and 1985, and the reduction trend is continuing.

This has been made possible by a combination of large investments in control technology and process changes, including energy conservation methods, increased use of self-generated and residue fuels, and replacement of old equipment with new, lower emission units.

Through 1988, the pulp and paper industry has spent almost $3.7 billion on air quality protection for (1) facilities designed with the single purpose of emission control from power boilers, pulping operations and paper making operations, (2) conversion of power and steam generating power boilers to burn fuels with fewer emissions, followed more recently by conversion from these fuels to wood residues and/or coal requiring more elaborate emissions control technology, and (3) incremental costs for additional kraft recovery furnace capacity with minimal sulfur emission rates. These capital expenditures do not include administrative and environmental research costs, or operating and maintenance costs

at the mill level. Planned capital expenditures for 1989 were estimated at about $450 million.

An emissions tax would significantly raise the cost of production for the forest products industries and other industries, without any scientific evidence that emissions would be incrementally reduced compared with the existing downward trend in recent years. For the nation as a whole, additional outlays would raise inflation rates and reduce productivity and real GNP. Moreover, discriminatory impacts on different regions and sectors of the economy would weaken their competitive position in the national and world economy.

Much of this industry's record of achievement in air quality control is due to improvements in energy productivity and efficiency, which have helped to reduce or limit SO_2 and NOx emissions. Large capital investments have increased the utilization of renewable domestic energy sources such as wood residues, pulping liquors and hydroelectric power, and have improved energy efficiency through self-generation and cogeneration of electric power.

Moreover, Federal New Source Performance Standards (NSPS) limit emissions from new boilers, so that when mills replace older boilers with a new unit there generally is a major reduction in the amount of SO_2, NOx and particulate emissions.

Between 1972 and 1988, the paper industry reduced its average use of fossil fuels and purchased energy per ton of output by more than 43 percent (on an adjusted basis). Consumption of fossil fuels and purchased energy decreased by 19 percent during the same period. The paper industry's use of self-generated and residue sources of energy is now up to more than 56 percent of its total energy consumption from about 40 percent in 1972. Spent pulping liquors are the industry's principal source of energy, increasing steadily since 1972 in a trend which reflects growth in U.S. sulphate pulping capacity. In 1988, 39 percent of the paper industry's total energy consumption came from this source alone.

Although precise figures are not available on the solid wood side of the industry, it is safe to say that over 75% of their energy comes from wood and wood-derived fuel sources.

The forest products industry is one of the leading U.S. industries in self-generating and cogeneration of electric power. In fact, approximately 50 percent of the paper industry's own electricity demand is cogenerated, producing fuel savings and a reduction in emissions.

In the pulp and paper industry, cogeneration is most commonly achieved through the generation of steam at high pressures and temperatures for use first in electric power turbines and then in

process applications. This dual use of steam means that electricity is generated with substantially less energy and lower emissions than if this electricity were generated separately and conventionally by a central utility power station.

Should an emissions tax be enacted, the forest products industry would be faced with both the direct cost of this tax and the indirect cost of emissions taxes imposed on electric utilities. Assuming a full or partial pass through of any tax on electricity generation, production costs would be substantially increased by this double taxation of industrial source emissions and purchased electricity.

A Tax to Counter the Effect of Ozone on Forests

The forest products industry, including both large and small corporate owners and individual tree farmers, care for approximately 186 billion trees covering nearly 100 million acres. Our industry, possibly more than any other, is concerned about external factors that could affect tree growing and our tree-growing capabilities.

However, our industry's tree growers know that actions must be based on fact. We cannot, nor should we, make changes in our silvicultural practices that will affect tree growing, until we have the scientific facts necessary to ensure that our actions are correct.

Accordingly, it was with great interest that our industry read the recently released Public Review Draft of the National Acid Precipitation Assessment Program report dealing with "Changes in Forest Health and Productivity in the U.S." Several excerpts from the draft report touched upon the effect of ozone on trees, and stated what we know and what we do not know.

There is experimental evidence which supports the hypothesis that ozone and cloud water acidity at ambient levels can reduce the resistance of red spruce to winter injury and thus contribute to the observed spruce dieback and mortality. However, the relative importance of pollutant and natural stresses in red spruce decline at high elevations in the northern Appalachians is not known.

High elevation spruce-fir forests in the Southern Appalachians are exposed to potentially harmful levels of ozone and cloud water acidity. However, the long-term implications of pollutant-related stress to high elevation ecosystems require further investigations.

Ambient levels of ozone have altered seedling growth and physiology of some pine families in controlled experiments in the Southern U.S. In contrast, effects of rainfall acidity on pines in controlled experiments are generally nonsignificant.

Ozone stress is the predominant factor in the decline of ponderosa pine and Jeffrey pines in the San Bernardino Mountains near Los Angeles. Ambient ozone has caused visible injury to foliage in sensitive genotypes of eastern white pine, black cherry, and some other species. However, the extent to which ozone is affecting overall forest productivity and ecosystem diversity remains to be determined. Exclusive of the L.A. Basin, effects of ambient ozone on tree species are generally subtle and have not been shown to cause obvious forest health problems other than visible injury and growth loss in sensitive species and genotypes.

Generally, the Public Review Draft of the NAPAP Report concludes that: "Ozone is an important factor in the decline of pines in southern California and is the pollutant of greatest concern with respect to possible regional scale impacts on North American forests."

That having been said, we would conclude by stating that first, given that ozone is formed as a result of various pollutants being affected by sunlight, we are not certain of how a tax might be enacted that would counter the possible, but uncertain, effects of ozone and tree growing. Second, we don't feel that the tax code is the proper place for such implementation to occur. If we have the scientific knowledge to counter the harmful effects of ozone, we should do so directly.

A Groundwater Source Pollution Tax

For several years, the forest products industry has been making extensive capital investment expenditures to address the issue of groundwater source pollution. We believe that taxing sources of groundwater pollution would be an ineffective and problematic means of addressing this type of pollution.

First, such a tax would draw money away from investments in control technology, process changes, and other procedures that could prevent groundwater pollution in the first place. Groundwater contamination is difficult to remedy once it has occurred. Industries should be encouraged to invest their capital in preventive and corrective measures rather than be required to pay a tax where its end use would be uncertain. Such a tax would inevitably lead to increased product prices, yet would not achieve a result that would justify this burden on the economy.

Second, identifying an equitable tax base and establishing fair tax rates for such sources would be extremely difficult. Sources of groundwater pollution vary widely, ranging from household septic tanks and surface/groundwater interaction to abandoned hazardous waste sites and coal mines. The groundwater pollution attributable to such sources is difficult to document and quantify. Establishing a tax that would bear a rational

relationship to each source's contribution to contamination would be almost impossible.

And third, we are fearful that a Federal groundwater source pollution tax would interfere with the state's traditional leadership role in addressing groundwater issues. Absent an overwhelming reason, this role must remain with the states because of the location-specific hydrogeological factors that determine an area's potential for groundwater pollution.

Excise Taxes on Tropical Timber Imports

The wood industry recognizes the worldwide importance of tropical forests and the growing concern about their future. These forests are located primarily in developing countries where expanding human population in need of fuelwood, employment, and land for food production are having serious impacts on them and large areas of forest have been converted to other uses.

Properly managed tropical forests are a renewable resource which can provide income critical to more general development. Wood products industries can provide employment opportunities and be significant contributors to economic development. Many producing countries generate income from stumpage taxes, export taxes, as well as numerous license fees. Much of this income is earmarked for national forest management, which includes reforestation and enforcement of the forestry policies. These countries, with the assistance of the Food and Agriculture Organization, are participating in the Tropical Forest Action Plan (TFAP). This Plan reviews the forestry policies of the individual countries and makes recommendations to ensure rational multi-use land management policies.

Sound commercial users of forest resources which provide economic growth will also encourage sound forestry practices. All of the tropical producing nations are member of the International Timber Trade Organization (ITTO). This organization, along with the TFAP, is galvanizing the political commitment which until recently had not been so evident. Brazil, Malaysia, and many of the tropical producing countries have submitted projects to the ITTO which focus on conservation of their forests. Where forest resources are providing economic returns, there is incentive to maintain them for continuing yield.

Forest industries, dependent for their economic well-being on a sustained supply of forest resources, have become strong advocates of sustained yield forestry practices. For this reason, and with respect for the sovereign rights of producer nations to manage and utilize their own resources, the U.S. wood products industry:

- Encourages research and evaluation of tropical forest management, harvesting and reforestation efforts to ensure sustained yields, and supports mutually agreed upon measures, by both producers and consumers, which provide incentives for sound forest management.

- Encourages the development of policies which allow tropical forest countries to engage in free and open trade in the full range of lumber, veneer and processed wood products required on the world market, which will help to provide the economic incentive and means for sustained yield forest management.

Accordingly, we would oppose artificial import restrictions that would harm the market for these products, and in effect, reduce the long-term economic return of the tropical forests. The economic value of the forests as a renewable source of timber is a necessary tool for governments of producing nations to use to reverse the slash and burn agriculture practices which are causing the majority of the deforestation of the tropics. And, finally, we would point out that several American corporations have established tree farms and plantations in tropical locations. These farms and plantations, which plant, harvest, and replenish in a continuous cycle, are examples of sustained development that produces a renewable resource that reduces the pressure on the remaining indigenous forests. The harvest from these tree farms is often destined for export, and we would maintain that they benefit the economies of both the U.S. and the host nation.

Again, we would ask, what is the objective sought by this proposal, and is amending the tax code the proper means of accomplishing that objective?

Deny Deductions for Harvesting Virgin Materials, For Example, Old-growth Redwoods

The forest products industry, from the individual tree farmer to the major corporation, plants approximately 6 million trees each day. They do this with the knowledge that trees are a renewable resource and with the expectation that these trees will one day be harvested and then used and re-used in any number of ways by the American public. As stated at the beginning of this statement, our industry supports increased recycling of paper products, and we have committed ourselves to increasing our recovery of fiber for recycling by 50 percent by the end of 1995.

But it is important to note that to increase the "tax cost" of virgin materials, in this case timber, either by the imposition of an excise tax on harvest or by the denial of deductions, is neither an effective nor desirable way to encourage recycling.

Nor, I might add, would it serve to enhance the growth of today's privately owned forestlands.

For example, increasing the "tax cost" of old growth redwoods would totally miss the mark of encouraging recycling. In 1986, only one percent of the total volume -- and less than one-tenth of one percent of the total value -- of timber harvested in California, including redwoods, was used as pulpwood (that is, wood that is used to make pulp and, ultimately, paper). Thus an indiscriminate tax on all virgin timber, or redwoods selectively, would clearly make no sense. Moreover, in California the primary source of pulpwood is from sawmill residual chipping. In other words, these trees would be harvested for lumber products regardless, and the only question, from an economic point of view, is what happens to the residual wood after being processed at a saw mill. The primary options are burning, landfilling, or using the residues as a source of pulp.

In addition, we would point out that to tax private tree farmers could well put pressure on additional harvesting from federal and state forests. At the very least, it would distort the market place for timber.

And finally, we would like to reemphasize that trees are a national resource. Taxing the virgin timber content of pulp and paper products, or taxing the harvesting of trees, would be discriminatory tax to be imposed whether or not the nation's recycling objectives were being met. In fact, rather than tax the harvesting of trees, we would recommend, as we have in testimony before this Committee, that the Congress enact a capital gains tax rate differential, including timber as an eligible asset, in recognition of the fact that investment in timber presents significant long-term risk. We believe that such a tax would provide a significant incentive to further tree plantings, and thus increase this renewable and reusable resource. In addition, the environmental benefits of a capital gains rate have been recognized by several major environmental groups.

Summary

This hearing has encompassed a number of topics of interest to the forest products industry. We would like, at this point, to make the following summary points:

- The Federal government does not need to impose a tax code penalty to encourage waste paper recycling; market forces are already and will continue to encourage expanded recycling, in fact, the paper industry has committed itself to a substantial increase in waste paper utilization.

- Through increased energy conservation and capital expenditures, our industry is significantly reducing its emissions of SO_2 and NOx. To tax such emissions, which are also being reduced by nearly every industry, would only take away resources that companies need to effect even further reductions.

- The relationship between ozone and forest growth is uncertain and seems to be confined to specific species in selected regions. Moreover, it is inappropriate to impose a tax which might not have any effect on the formation of ozone.

- An excise tax on imported timber will have no effect on the burning and destruction of rain forests in developing nations. Importation of tropical timber is a process that helps both the developing host nation and the United States in a free market exchange and is an issue separate and apart from the destruction of rain forests through burning.

- Additional taxes levied on the harvesting and/or use of virgin materials would distort the market and have an uncertain impact on recycling. In addition, it could well increase the cost of growing timber which is needed for other purposes, thus providing a disincentive to tree plantings.

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Mr. ANDREWS [presiding]. Thank you very much.
Mr. Huard.

STATEMENT OF PAUL R. HUARD, VICE PRESIDENT, TAXATION AND FISCAL POLICY DEPARTMENT, NATIONAL ASSOCIATION OF MANUFACTURERS

Mr. HUARD. Thank you.

I am Paul Huard, vice president of the taxation and fiscal policy department of the National Association of Manufacturers. I appreciate the opportunity to present the NAM's views on the use of Federal tax laws for environmental objectives.

At the outset of my testimony, I would like to raise one overriding concern, the effect of environmental policy on the Nation's economy. The economic commitment of U.S. business to environmental quality is very heavy, already exceeding $50 billion annually, a figure that may well double or triple under pending clean air legislation.

Given the magnitude of such costs, we urge the Congress to be mindful of their effect on the ability of U.S. manufacturers to remain competitive in an increasingly tough global marketplace. Such costs translate into higher prices for U.S.-made products. To the extent we impose these costs at rates proportionally higher and faster than those our global competitors impose on their domestic manufacturing firms, we damage our own economy.

NAM believes we can and should improve on the significant environmental quality achievements of the past several decades. But, in order for U.S. manufacturers to be competitive, further gains in environmental quality should be achieved in ways that allow flexible, cost-effective responses by business and permit access to dependable, reasonably priced energy.

NAM believes all uses of the tax laws for environmental objectives should be governed by the following general criteria: First, under no circumstances should Congress adopt new or raise existing sector-specific taxes whether for environmental or other purposes. Second, under no circumstances should Congress enact for environmental or other purposes selective denials of otherwise ordinary and necessary business expense deductions. Third, where taxpayers make capital outlays to comply with environmental regulations, such outlays should be encouraged by positive tax treatment. A program based on tax incentives instead of tax penalties would be much less harmful both to the U.S. domestic economy and to the U.S. global competitiveness.

Applying the foregoing principles to some of the subjects under specific consideration at these hearings, NAM would oppose all of the following: Any increase in selective excise taxes including those on gasoline and diesel fuel, so-called gas-guzzler vehicles, and inland waterway barge fuel; the creation of any new excise taxes such as taxes on sulfur dioxide, nitrogen oxide, ground water source pollution, tropical timber, outdoor recreational equipment, and harvesting of virgin materials; and any denial for environmental objectives—including but not limited to encouraging recycling—of otherwise ordinary and necessary business expense deductions

including but not limited to the costs of harvesting virgin materials.

NAM would, on the other hand, be supportive of proposals to provide improved tax treatment of capital outlays made to comply with mandatory environmental regulations. Such treatment could take the form of access to tax-exempt financing and to enhanced capital recovery up to and including expensing for outlays made to comply with such regulations.

It should also be noted that even under current law some taxpayers making large capital outlays for environmental reasons may incur significant additional tax liabilities because of the extremely adverse treatment of depreciation under the corporate alternative minimum tax.

This counterproductive situation should be corrected and any environmental tax incentives that may be enacted in the future should be removed from the scope of the alternative minimum tax.

Thank you, Mr. Chairman. That concludes my summary.

[The statement of Mr. Huard follows:]

TESTIMONY ON

USE OF THE TAX CODE
FOR ENVIRONMENTAL OBJECTIVES

BY

PAUL R. HUARD
VICE PRESIDENT, TAXATION AND FISCAL POLICY
NATIONAL ASSOCIATION OF MANUFACTURERS

BEFORE THE

COMMITTEE ON WAYS AND MEANS
UNITED STATES HOUSE OF REPRESENTATIVES

MARCH 6, 1990

I am Paul R. Huard, Vice President of the Taxation and Fiscal Policy Department of the National Association of Manufacturers. I appreciate the opportunity to present to the Committee on Ways and Means NAM's views on use of the federal tax laws for environmental objectives.

The committee and its chairman are to be commended for conducting this comprehensive inquiry into the relationship of tax policy and environmental policy. Such an inquiry is needed because it is, with ever-increasing frequency, suggested that environmental objectives be achieved through changes in the nation's tax laws. All too often, this occurs without any thoughtful consideration of whether such changes constitute good tax policy.

Before getting into the specifics of my testimony, however, I would like to raise one overriding concern: the effect of environmental policy on the nation's economy. NAM and its members are strongly committed to continued improvement in the quality of our environment. As noted by other witnesses at this hearing, the economic commitment of U.S. business to environmental quality is heavy, already exceeding $50 billion annually, a figure that may well double or triple under pending clean air legislation.

Given the magnitude of such costs, we urge Congress to be mindful of their effect on the ability of U.S. manufacturers to remain competitive in an increasingly tough global marketplace. Such costs translate into higher prices for U.S.-made products. To the extent we impose these costs at rates proportionately higher and faster than those our global competitors impose on their domestic manufacturing firms, we damage our own economy. To be blunt, what we are talking about here is slower growth and, ultimately, a reduced standard of living for all Americans.

NAM believes we can and should improve on the significant environmental quality achievements of the past several decades. But, in order for U.S. manufacturers to be competitive, further gains in environmental quality should be achieved in ways that allow flexible, cost-effective responses by business and that permit access to dependable, reasonably-priced energy.

Turning now to the topic of using the tax laws to promote environmental objectives, NAM believes any and all such uses should be governed by the following general criteria:

1. Under no circumstances should Congress adopt new--or raise existing--sector specific taxes [e.g., selective excise taxes, whether labeled as such or masquerading as "fees"], whether for environmental or other purposes, such as deficit

reduction. As a matter of basic policy, singling out a specific sector or product to bear a special tax burden is inherently unfair. It inhibits growth of the penalized sector or product and distorts resource allocation. If it unilaterally raises the price of the penalized product relative to the price of the same product produced outside the U.S., it also damages our international competitiveness.

2. Similarly, under no circumstances should Congress enact, for environmental or any other purposes, selective denials of what are otherwise ordinary and necessary business expense deductions such as, for example, costs of harvesting virgin materials. Here again, to the extent the cost of producing the penalized item is thereby raised, these selective denials are unfair, economically distortive, and anti-competitive. Moreover, in some cases, such as selective denial of cleanup expense deductions, the result may be to discourage voluntary efforts to improve the environment.

   Another objectionable feature of denying what are otherwise legitimate business expense deductions is that this erodes the long-standing concept taxing the net income of business taxpayers, thus changing the nature of the tax from one on income to one on gross receipts. Gross receipts are an inequitable base for the imposition of federal income taxes, leading to widely disparate burdens on taxpayers.

3. In cases where taxpayers make capital outlays to comply with environmental regulations, such outlays should be encouraged by positive tax treatment, such as access to tax-exempt financing and accelerated capital recovery up to and including outright expensing. We believe a program based on tax incentives instead of tax penalties would be much less harmful both to the U.S. domestic economy and to U.S. global competitiveness. [See the discussion in the Appendix.]

Applying the foregoing principles to some of the subjects under specific consideration at these hearings, NAM would oppose all of the following:

-- any increase in existing selective excise taxes, including those on (i) gasoline and diesel fuel, (ii) so-called "gas guzzler" vehicles, and (iii) inland waterway barge fuel;

-- the creation of any new selective excise taxes, such as taxes on (i) sulfur dioxide and nitrogen oxide, (ii) ground-water source pollution, (iii) tropical timber, (iv) certain outdoor recreational equipment, and (v) the harvesting of certain virgin materials; and

-- any denial, for environmental objectives including but not limited to encouraging recycling, of otherwise ordinary and necessary business expense deductions, including but not limited to the costs of harvesting certain virgin materials.

NAM would, on the other hand, be supportive of proposals to provide improved tax treatment of capital outlays made to comply with mandatory environmental regulations. Such treatment could take the form of access to tax-exempt financing and to enhanced capital recovery, up to and including expensing, for outlays made to comply with such regulations.

It should also be noted that, even under current law, some taxpayers making large capital outlays for environmental reasons may incur significant additional tax liabilities because of the extremely adverse treatment of depreciation under the corporate alternative minimum tax. This counterproductive situation

should be corrected, and any environmental tax incentives that may be enacted in the future should be removed from the scope of the alternative minimum tax.

This concludes the Association's prepared remarks. I would be pleased at this time to address any specific questions that members of the committee may have.

APPENDIX

The Economics of Environmental Penalty Taxes v. Environmental Tax Incentives

A strong case against imposing environmental penalty taxes can be made on economic grounds. For instance, in the case of emissions of pollutants, the impact on the economy would be significantly more unfavorable if such emissions were taxed than if direct regulations limiting the permitted quantity of such emissions were coupled with positive tax incentives for pollution abatement equipment.

For example, under an "acid rain" emissions tax, the price of energy will be directly raised by the amount of the tax. The largest price increases would take place at utilities burning high-sulfur coal; somewhat lower price increases would take place at utilities burning alternative fuels such as natural gas. Some utilities might not be able to operate at a profit in the event that state regulatory agencies denied them rate increases to pass the costs of the tax through to prices.

The rise in energy prices would raise production costs in industries where energy is a major input to production, e.g., basic metals. Simultaneously, a rise in overall power costs would raise the aggregate price level and reduce real incomes. The inflation rate would be raised in the short run, although in the long run weaker economic activity would probably pull the inflation rate down toward its current law path. The rise in prices would slow the economy by a greater magnitude than the increase in capital spending for pollution abatement would raise it. Thus while GNP might be temporarily raised by higher capital spending, weaker demand and higher production costs would entail permanent losses in output. The production losses would of course be concentrated in energy-using industries.

Similar effects could be anticipated in the event that pollution were to be reduced solely through mandatory regulation without penalty taxes, although here the costs to the economy would be somewhat lower. The reason is that under a mandated regulatory system, utilities would pay only the cost of higher capital spending. Under a system including tax penalties, utilities would pay the costs of investment in pollution abatement equipment, plus the additional cost of the tax on any residual emissions. Nevertheless, the overall direction of the economy would be similar: a rise in the price level, coupled with losses in output. In a 1987 study using the Data Resources model, NAM calculated that mandated regulations reducing emissions of sulfur dioxide by 14 million tons and nitrogen oxides by 6.8 million tons per year would have the following effects on the economy. GNP would be reduced by -1.5 percent, or $76 billion in constant 1982 dollars over ten years. Industrial production would be reduced by -2.1 percent. Employment would be reduced by about 700,000 jobs relative to its current law path. The consumer price index would be raised by 1.5 percent.

By comparison, the costs to the economy would be minimized through a combination of mandatory regulations and positive tax incentives such as expensing of capital outlays for abatement. With tax incentives for pollution abatement equipment, utilities would be able to recoup a greater part of the cost of compliance with regulations. This would imply lower increases in rates. Hence the rise in prices would be smaller, as would any losses in production. In this respect, it should be noted that capital recovery incentives in the tax code exert a large and statistically significant impact on capital spending. Further, because under a program of tax incentives the growth rate of the economy would be higher than under an emissions tax regime, the revenue loss to the Treasury would be significantly offset by higher tax collections in a larger economy.

Mr. ANDREWS. Thank you.
Mr. Russell Gifford.

STATEMENT OF RUSSELL R. GIFFORD, PRESIDENT, EAST OHIO GAS CO., ON BEHALF OF THE NATURAL GAS VEHICLE COALITION, CLEVELAND, OH, ACCOMPANIED BY ROBERT D. FRATANGELO, ASSISTANT VICE PRESIDENT FOR TAXES, CONSOLIDATED NATURAL GAS CO., PITTSBURGH, PA, AND GILBERT P. SPERLING, COUNSEL

Mr. GIFFORD. Good afternoon, Mr. Chairman and members of the committee.

My name is Russell R. Gifford. I am president of the East Ohio Gas Co. in Cleveland, OH. Accompanying me today are Robert D. Fratangelo, assistant vice president of taxes at Consolidated Natural Gas Co., East Ohio's parent company, and Gilbert P. Sperling, counsel to the Natural Gas Vehicle Coalition.

East Ohio Gas Co. operates one of the largest fleets of natural gas vehicles in the Nation. East Ohio has approximately 850 natural gas vehicles, which represent 75 percent of our total fleet.

I am appearing before the committee on behalf of the Natural Gas Vehicle Coalition. The coalition's 118 members include natural gas distribution companies, pipelines, producers, automotive equipment and vehicle manufacturers, natural gas vehicle users, environmental organizations, education institutions, and other organizations interested in commercializing natural gas as a vehicle fuel. The Natural Gas Vehicle Coalition is dedicated to promoting and stimulating the development of a healthy natural gas vehicle industry.

The coalition would like to commend Congressman Mike Andrews for developing and introducing H.R. 2269. We also commend the cosponsors of the bill for their foresight in supporting legislation that could make significant contributions to improved air quality. The Natural Gas Vehicle Coalition supports H.R. 2269 because it provides a strong Federal Government incentive for businesses and State and local governments to use motor vehicles that run cleaner than conventionally fueled vehicles.

The use of clean fuel vehicles can substantially reduce urban smog and toxic air pollution. The potential of clean fuel vehicles is recognized in various amendments to the Clean Air Act currently pending in Congress. H.R. 2269 is a natural corollary to this legislation to promote use of clean fuels.

H.R. 2269 provides a 20-percent tax credit for three important areas: equipment to convert existing vehicles so that they may run on a clean-burning fuel; the fuel system of a new vehicle produced to run only on a clean-burning fuel; and refueling station equipment directly related to delivering clean alternative fuel, such as natural gas, methanol, ethanol into the fuel tank of a vehicle, including fuel storage tanks and compressor equipment for natural gas.

Natural gas vehicles are among the cleanest of the clean-fuel vehicles. For example, vehicles dedicated to using natural gas can achieve reductions of carbon monoxide emissions exceeding 80 percent. Natural gas is also a safe fuel. Fuel storage tanks have suc-

cessfully withstood severe abuse testing. The fuel itself is lighter than air, and if a leak occurs it evacuates into the atmosphere and does not leave pools as does liquid gasoline.

A detailed 430-million-mile study on natural gas vehicles reported no injuries or fatalities associated with the fuel system. The supply of natural gas is plentiful. Natural gas is available in every major community where urban air quality is a serious problem. Already in place and supplying nearly 50 million homes every day, the Nation's extensive natural gas pipeline network can easily accommodate the addition of refueling stations along its route.

Natural gas vehicles are economical. Compared to an equivalent gallon of gasoline, the price of natural gas ranges from 42 to 75 cents around the country, depending upon many regional and local factors. The price of converting a gasoline vehicle to natural gas is approximately $1,500.

The fuel system costs of new vehicles built by major manufacturers and produced to run on natural gas only is about $500.

The cost of the refueling station is about $1,500 per vehicle to build a full-service, fast-fill/slow-fill facility. My company, East Ohio, has realized lower operating costs as a result of converting our vehicles to natural gas.

H.R. 2269 is needed to promote the use of clean fuels. First, the Andrews legislation is as much a clean air bill as it is a tax bill in that it is supporting fuels identified by the administration and others as solutions to air pollution.

Second, the revenue estimate at $22 million is modest when compared with the benefits that it provides. The legislation would help fleets and other users of natural gas vehicles and other clean vehicles by reducing the pay-back period. For a natural gas fleet, H.R. 2269 would reduce the average payback for conversion from 4.7 years to 3.7 years.

For a new vehicle that is built by a manufacturer to operate exclusively on a clean, alternate fuel, the payback would fall from 2.8 to 2.2 years.

There is a very well structured sunset clause that phases out the credits over several years so as to limit the economic dislocation of the fledgling alternative fuel industry. This avoids the problem that existed with the solar tax credits from the 1978 National Energy Act which when ended abruptly in 1985, resulted in virtual collapse of the residential solar energy industry.

Experience with alternative fuels is international. Experience in Canada, New Zealand, and Argentina shows that one of the key elements of success is government support including some form of financial inducements. Some inducements are incentives, credits, or cash subsidies; some are disincentives, such as higher prices on dirty fuels.

The Andrews bill will not adversely impact the cost to all consumers through price hikes of traditional fuels. In fact, the Andrews approach provides an effective, focused incentive on the alternative fuel users without penalizing others in the transportation sector.

Mr. Chairman, we commend the committee for its consideration of environmental issues as a part of its long-range strategy for programs and issues within its jurisdiction.

We believe that the air quality credits of H.R. 2269 can play an important role in improving air quality in the urban areas of our country.

Thank you. I and those accompanying me will be happy to answer any questions you or members of your committee might have.

[The statement of Mr. Gifford follows:]

STATEMENT OF RUSSELL R. GIFFORD, PRESIDENT
EAST OHIO GAS COMPANY
ON BEHALF OF
THE NATURAL GAS VEHICLE COALITION
BEFORE THE
COMMITTEE ON WAYS AND MEANS
UNITED STATES HOUSE OF REPRESENTATIVES
ON LONG-TERM STRATEGY ON THE
ENVIRONMENT

March 6, 1990

Good morning Mr. Chairman and members of the Committee. My name is Russell R. Gifford, and I am the President of the East Ohio Gas Company, located in Cleveland, Ohio. I am appearing before the Committee on behalf of the Natural Gas Vehicle Coalition. Accompanying me today are Robert D. Fratangelo, Assistant Vice President for Taxes at Consolidated Natural Gas, East Ohio's parent company, and Gilbert P. Sperling, Counsel to the Natural Gas Vehicle Coalition. The East Ohio Gas Company operates one of the largest fleets of natural gas vehicles in the nation. East Ohio has approximately 850 natural gas vehicles which represents 75 percent of our total vehicle fleet.

The Natural Gas Vehicle (NGV) Coalition is made up of 118 members, including natural gas distribution companies, pipelines, producers, automotive equipment and vehicle manufacturers, natural gas vehicle users, environmental organizations, educational institutions, and other organizations interested in commercializing natural gas as a vehicle fuel. The NGV Coalition is dedicated to promoting and stimulating the development of an economically and environmentally healthy natural gas vehicle industry.

The NGV Coalition would like to commend Congressman Mike Andrews for developing and introducing H.R. 2269. We also commend the co-sponsors of the bill for their foresight in introducing a bill that could make significant contributions to improved air quality. Our organization supports H.R. 2269 because it provides a strong federal government incentive for businesses and state and local governments to use motor vehicles that run cleaner than conventionally-fueled vehicles. Since emissions from motor vehicles cause a substantial amount of the pollution in our urban areas, H.R. 2269 has the potential to make major contributions to improved air quality. This potential is recognized also in various proposals to amend the Clean Air Act that are currently pending in Congress. Most of these rely heavily on increased use of clean-burning motor vehicles to make air quality improvements. H.R. 2269 could provide a necessary and vital complement to any clean air amendments that will be enacted by Congress.

H.R. 2269 provides an innovative incentive to help clean up emissions from motor vehicles, a source of substantial amounts of various pollutants in our urban areas. The bill would allow an "air quality credit" of 20 percent of the capital cost of clean-burning motor vehicle fuel property that is used for business purposes. This would effectively reduce the cost of motor vehicles that run on a clean-burning fuel such as natural gas, liquefied petroleum gas (LPG), or fuels that are at least 85 percent methanol, ethanol, other alcohols, or ether. The credit would also apply to the cost of refueling stations for vehicles that run on these clean-burning fuels.

Since state and local governments are not federal taxpayers, a tax credit as described above would represent no incentive to these government entities. However, H.R. 2269 is written so that

it does not preclude state and local governments from taking advantage of the air quality credit; they are eligible to receive credit equivalent payments from the federal government for their investment in qualified clean-burning motor vehicle fuel property. Thus, the bill essentially places these government entities in the same position as a taxpayer for the purpose of obtaining the benefit of the air quality credit.

H.R. 2269 would allow the 20 percent air quality credit from 1990 through 1999. Starting in the year 2000, the credit would be reduced by five percent each year, so that it would be completely phased out after 2002.

With respect to existing motor vehicles converted to run on a clean-burning fuel, the credit would be available for all of the equipment installed on the vehicle that is necessary to propel the vehicle on the clean-burning fuel. For newly-produced vehicles that run only on a clean-burning fuel, or for conventionally-fueled vehicles that are converted to run only on a clean-burning fuel, that portion of the cost of the vehicle that is attributable to on-board storage of the fuel, delivery from the storage chamber to the engine and exhaust of gases from combustion would be eligible for the credit. Any refueling facility equipment that is directly related to delivering a clean-burning fuel into a vehicle, including storage tanks or compressor equipment, would also be eligible for the credit.

No basis adjustment would be required for property on which an air quality credit is claimed. For taxpayers, this provides an incentive to purchase clean-burning motor vehicle fuel property, as compared to conventionally-fueled vehicles, since the full capital cost of clean-burning motor vehicle fuel property could be depreciated by the taxpayer.

Recapture rules under H.R. 2269 would discourage removal of the equipment that allows a vehicle to qualify as clean-burning motor vehicle fuel property. If the equipment is removed or disconnected, all or a portion of the air quality credit previously taken by the taxpayer would have to be repaid to the federal government.

The effect of H.R. 2269 would be to reduce the simple payback periods on converted vehicles by one year and dedicated original equipment manufactured (OEM) natural gas vehicles by one-half year in fleet vehicle applications. Specifically, simple paybacks for converted fleet vehicles fall from 4.7 years to 3.7 years, and for dedicated OEM fleet vehicles, paybacks are lowered from 2.8 years to 2.2 years.

These numbers are based on a simple payback methodology: the period of time required for accrued fuel cost savings to pay for the initial capital investment in incremental vehicle costs and fleet station refueling facilities. Economic assumptions include 40 cents per gallon equivalent cost differential between gasoline and natural gas, incremental vehicle costs of $1,500 and $500 for converted and dedicated NGVs and an average per vehicle refueling station capital investment of $1,500. The use of a 20 percent air quality credit effectively reduces each of these capital costs.

In short, a typical vehicle fleet owner could reduce the time required to recover capital investments in alternative-fuel vehicles by using the air quality credits proposed in H.R. 2269. The accelerated recovery of capital costs will provide a significant economic incentive to vehicle owners such as the fleet operator upon which this example is based.

Many proposals have been introduced in Congress to amend the Clean Air Act. In recognition of the fact that motor vehicles cause much of the ozone and other pollution found in our cities, these proposals typically include provisions that rely heavily on the use of clean-burning motor vehicle fuel property to achieve improvements in air quality.

Congressman Andrew's bill would provide a government incentive that works as a complement to all of the proposed clean air amendments. Because H.R. 2269 would provide economic incentives to purchase clean-burning motor vehicles, it could allay some of the concerns of both the groups required to supply the vehicles and the groups that are expected to provide the demand for the vehicles.

From both economic and environmental standpoints, natural gas represents an extremely viable alternative fuel for vehicles. Lower fuel costs and emissions relative to gasoline make the use of compressed natural gas a cost-efficient approach to help alleviate air quality problems in U.S. cities. Natural gas vehicles are among the cleanest of the clean-fuel vehicles. For example, vehicles dedicated to using natural gas can achieve reductions of carbon monoxide emissions exceeding 80 percent. The greater Cleveland area has certainly benefitted from the lower pollutants emitted by East Ohio's natural gas vehicles.

AIR QUALITY BENEFITS OF NGVs

EPA Estimates of Emission Reductions From NGVs

On January 28, 1988, the Environmental Protection Agency issued a Technical Guidance Document, suitable for use by state and local governments in estimating the actual impact of various air quality improvement options. The document, entitled Technical Report: Guidance on Estimating Motor Vehicle Emissions From the Use of Alternative Fuels and Fuel Blends, estimates that NGVs can yield the following emission reductions:

- A 50% reduction in tailpipe emissions of carbon monoxide;
- A 40% reduction in tailpipe emissions of reactive hydrocarbons;
- A 100% reduction in emissions of reactive hydrocarbons from filling stations and evaporation.

We note that EPA views its estimates as advisory rather than mandatory. That is, EPA permits states and localities to use their own estimates, in place of EPA estimates, where states and localities can show it is reasonable to do so. This point is particularly important because, in the gas industry's view, EPA has been conservative in estimating the achievable emission reductions from shifts to NGVs.

We regard EPA's estimates as conservative. Our estimates, based on gas industry experience, show that even more dramatic reductions are achievable for carbon monoxide and reactive hydrocarbons. As compared to gasoline vehicles, natural gas vehicles offer major reductions in emissions of carbon monoxide and reactive hydrocarbons.

So far, nearly all natural gas vehicles on the road in the United States are conversions of existing vehicles that once relied solely on gasoline or diesel fuel. Our experience with such

vehicles indicates that, when proper procedures are used to convert older gasoline or diesel fuel vehicles to natural gas, such conversions can reduce emissions of carbon monoxide and reactive hydrocarbons by more than 92 percent.

The actual emission reductions achieved depend on a large number of factors, including the tuning of both engines, the age and design of both vehicles and the condition and technology of the gasoline emission controls and the natural gas conversion equipment. Despite these possible variations, however, the emission reductions will be significant so long as proper procedures and equipment are employed.

Even compared to vehicles that employ new gasoline technology, NGVs can achieve significant reductions of emissions. We estimate that carbon monoxide could be reduced by up to 82 percent and reactive hydrocarbons -- those that contribute to ozone pollution -- could be reduced by up to 87 percent even in the case of new vehicles that have suffered no degradation from exposure to road conditions.

Because new gasoline vehicles have made substantial headway in reducing gasoline-related nitrogen oxide, outperforming gasoline vehicles with respect to this pollutant is a difficult challenge. However, it appears that newly manufactured engines involving "dedicated use of natural gas" or "dual capability", can be engineered to prevent any nitrogen oxide problem before it begins.

In a study recently prepared for A.G.A,[1] Professor E. J. Durbin of Princeton University concludes that an engine designed to run on natural gas could achieve reductions of nitrogen oxides by virtue of the carefully controlled air/fuel mixtures that would be possible with such an engine. These emissions reductions could be achieved without the use of a catalytic convertor, thereby maintaining low emissions levels that could not be maintained over time by a catalytic convertor.

The efficiency of a catalytic convertor decreases rapidly with time as the catalyst becomes poisoned with exhaust products.

A list of Professor Durbin's conclusions on fueling vehicles with natural gas is as follows:

1. This study has shown that from both emissions and efficiency points of view, gaseous fuels, and in particular natural gas fuels, are superior to gasoline in vehicular applications. The engine designer would prefer natural gas as a fuel over any other fuel.

2. Principal advantages of natural gas fuels come from the ability to create homogeneous mixtures of air and fuel more readily, which permits the use of lean combustible mixtures, and from the low carbon hydrogen ratio of fuel molecules.

3. Most assessments of emissions with natural gas fuels are based on fuel systems that have not been optimized for natural gas. These systems

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[1]Durbin, E.J., Understanding Emissions Levels from Vehicle Engines Fueled with Gaseous Fuels; Princeton, N.J.; Princeton University, February 1989.

do not exploit the full advantages of natural gas fuels.

4. In an engine "designed for natural gas" it should be possible to achieve oxides of nitrogen emissions much lower than those emissions from gasoline engines.

5. These low emissions should be attainable without catalytic convertors to clean up the engine exhaust.

6. Total hydrocarbons can be reduced 33 to 50 percent when using gaseous fuels. When the gaseous fuel is natural gas, environmentally active hydrocarbons can be reduced 90 percent as compared with gasoline.

7. With lean-mixture control systems, carbon monoxide can be effectively eliminated from the exhaust of natural gas fueled engines.

8. Carbon dioxide emissions are reduced approximately one-third as compared with gasoline.

9. An essential element in achieving these results, with good driveability, is a control system which adjusts air/fuel ratio to fit power requirements. Such a control system, coincidentally, provides increased fuel economy.

Of course, while newly manufactured NGVs can be expected to out perform retrofitted NGVs in emission levels and other respects, retrofitted NGVs are still the key to any immediate improvement in pollution from carbon monoxide and reactive hydrocarbons. NGV retrofitting is the only way that we can put large numbers of alternative-fuel vehicles on the road within the next few years.

Table I summarizes the emission reduction estimates for retrofitted vehicles in capsule form.

TABLE I

A.G.A. ESTIMATES OF ACHIEVABLE

EMISSION REDUCTIONS PER VEHICLE

WHEN GASOLINE VEHICLES ARE RETROFITTED TO NATURAL GAS*

Pollutant	Vehicles Using Older Gasoline Technology	Vehicles Using New Gasoline Technology
CARBON MONOXIDE	-99%	-82%
REACTIVE HYDROCARBONS	-92%	-87%

*Assumes use of proper procedures and equipment.

Use of Natural Gas in Heavy Duty Engines

Newly manufactured heavy-duty trucks and buses must soon meet tightened EPA standards for heavy duty engines. Newly manufactured natural gas engines are an extremely attractive compliance option.

This year, Flxible Corp. conducted laboratory tests on the nation's first transit bus designed and built to run exclusively on natural gas. The tests showed that a natural gas bus engine equipped with a catalytic converter is capable of meeting 1991 EPA emission standards for diesel transmit buses.

In 1988, newly manufactured natural gas buses, leased to the City of New York by Brooklyn Union Gas Company, were tested by EPA at the EPA facilities in Ann Arbor, Michigan. The results of these tests show that emissions from the buses met, or far surpassed, the EPA standards for model year 1991 gasoline-fueled heavy-duty engines.

For carbon monoxide, emissions were 10.6 grams per brake horsepower-hour (g/b-hp/hr), compared to a standard of 14.4.

For nitrogen oxide, emissions were 1.4 g/b-hp/hr, compared to a standard of 5.0.

For reactive hydrocarbons, which were only about 15% of the total hydrocarbons emitted, the bus emissions were extremely low. Even for total hydrocarbons, most of which do not appear to react chemically in the low atmosphere, the bus emissions were 1.2 b/g-hp/hr. The standard is 1.3.

Greenhouse Effect Considerations

Given the rising interest in possible global warming consequences from an apparent greenhouse effect, any environmental policies should take into account the estimated direct and indirect carbon dioxide emissions from vehicular combustion of natural gas, gasoline, gas-derived methanol, coal-derived methanol and other fuels.

Carbon dioxide is thought to be the leading actor in the greenhouse effect. With this concern in mind, we cite a recent Congressional Research Service Report for Congress entitled Carbon Dioxide Emissions From Methanol As A Vehicular Fuel. This Congressional Research Service report provides somewhat different numbers from those provided in an earlier World Resources Institute study. However, both studies agree on two key points: (1) use of coal-derived methanol in vehicles will substantially increase carbon dioxide emissions; and (2) direct combustion of natural gas in vehicles will substantially decrease such emissions.

The report estimates that, in comparison to gasoline, direct combustion of natural gas in vehicles will reduce carbon dioxide emissions by 30% or more.

Natural gas vehicles do emit some unburned methane. In fact, unburned methane accounts for most of the non-reactive hydrocarbons emitted by NGVs. As the term "mon-reactive hydrocarbon" suggests, unburned methane is not a chemically interactive gas and does not contribute to smog formation. We are aware of speculation that unburned methane from natural gas vehicle tailpipes, while not chemically reactive in the lower atmosphere, may nevertheless pose environmental problems in the upper atmosphere because methane is a "greenhouse gas". The Congressional Research Service has concluded that methane emissioms from NGVs would be so minuscule

that, even if every vehicle in the world were to run on natural gas, the total additional emissions of methane would add only about 0.1% to the current methane emissions from all sources.[2] In fact, we believe, given our research on the issue, that NGVs reduce total vehicular greenhouse impacts by at least 25 percent even when considering methane emissions.

Natural Gas is a Safe Fuel

Unlike many other alternative fuels currently under development, natural gas has a long and rich history as a vehicle fuel dating back to the infancy of the automobile itself. There are currently over 500,000 natural gas fueled vehicles worldwide, including over 30,000 in the United States. The lesson we have learned from this long history and extensive use is that natural gas may be the safest vehicle fuel of any type currently available, including gasoline.

A recent A.G.A. survey of natural gas vehicle fleet operators revealed that in over 434.1 million miles driven by the sample fleet, injury rates per vehicle mile traveled were 84% less than the national average for injuries per vehicle mile traveled for all U.S. registered vehicles.

The vehicle miles traveled by NGVs were small by comparison with gasoline vehicles, but nevertheless, the injuries reported were far less than those that would be expected statistically for gasoline vehicles.

In addition, the unique properties of natural gas itself make it extremely safe for use as a vehicle fuel. Unlike some other alternative fuels, natural gas is neither corrosive nor toxic. Natural gas is lighter than air. Therefore, in the unlikely event of a leak, natural gas will safely dissipate into the air. Gasoline and some other liquid alternative fuels form dangerous puddles and pools on the ground in the event of a leak. Moreover, natural gas' ignition point, between 1200-1300 degrees Fahrenheit, is two times higher than that of gasoline meaning many sources that would ignite gasoline mixtures will not ignite natural mixtures. Additionally, natural gas is only flamable over the very narrow range of 5 to 15 percent gas to oxygen ratios.

Finally, the fuel tank cylinders for natural gas vehicles may be the safest and most extensively tested vehicle fuel storage system available. They are typically made of reinforced aluminum or three-quarter-inch-thick steel and have been subjected to severe abuse testing. Natural gas cylinders have successfully withstood blasting with up to a full stick of dynamite, freezing, bonfires, and repeated impact from bullets, all without bursting or causing fire. None of the other alternative fuels, with the exception of, perhaps, propane, can make this claim.

Supply of Natural Gas is Plentiful

While there are clear environmental reasons to expand vehicular use of natural gas, there are no supply-related reasons to hold back.

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[2]Gushee, David E., "Alternative Fuels for Motor Vehicles, Some Environmental Issues," (Washington, D.C.: Congressional Research Service, 1988), pp. 17-18.

So long as the domestic natural gas resource base remains free of price controls and other artificial market constraints, the domestic resource base -- particularly when it is coupled with supplemental North American gas sources in Canada and Mexico -- is large enough to meet substantially higher levels of gas demand. The resource base is also large enough to overcome the results of occasional marketplace misjudgments.

Recent Estimates of the Natural Gas Resourse Base

The domestic natural gas resource base is huge. In March of 1987, in a volume entitled Energy Security: A Report to the President of the United States, DOE told President Reagan:

> If unconventional gas supplies (such as gas shales, tight sands gas, and gas hydrates) are included in the total, the Nation's supplies of natural gas may support 200 years of consumption at current rates.

In May of 1988, DOE issued a landmark study on natural gas supplies, entitled An Assessment of the Natural Gas Resource Base of the United States. In this study, which drew upon the knowledge of a number of expert panelists, DOE focused solely on natural gas resources that are domestically available and can be recovered with today's technology. The study found that, in the lower 48 states alone, natural gas reserves and resources total 1,059 trillion cubic feet (Tcf). At the 1987 level of nationwide gas consumption, this amount is equivalent to a 62-year supply.

Of this 62-year supply of technologically recoverable gas, the equivalent of a 35-year supply is available at wellhead prices below $3.00 per million Trus (MMBtu). This wellhead price range is not too different from prices that now occur at the peak of the winter heating season.

DOE adds that the 35-year supply can rise to a 45-year supply if wellhead prices rise to $5.00 per MMBtu. This range is far above today's prices, but still within the historical experience of gas consumers in the early 1980s. These supply figures do not include vast natural gas resources in Alaska (estimated by DOE at 129 Tcf), Canada and Mexico.

In short, DOE's estimates of the gas that is ultimately available to American consumers can be considered conservative. We add that DOE's resource base estimates are similar to the most recent estimates made by the Potential Gas Committee (PGC), a body of independent experts from throughout the natural gas industry. According to the latest PGC study, in the lower 48 states alone, conventionally recoverable gas at year-end 1988 (including "proven" reserves, which are already known to exist) was 816 Tcf. At 1987 gas consumption rates of roughly 17 Tcf per year, the PGC estimate is equivalent to a 49-year supply. Using either the DOE or the PGC supply estimate, it is clear that the lower 48 states are able to produce enough natural gas to meet expanded gas demand.

An "Elastic" Resource Base

The lesson of an "elastic" resource base has become clear to the gas industry over the last 20 years. During the 1970s, prior to the enactment of the Natural Gas Policy Act of 1978, reserve replacements as a percentage of domestic production averaged 46 percent. During the 1980-88 period the reserve replacement ratio has averaged 89 percent.

During the late 1970s and early 1980s, surging wellhead prices brought forth pioneering development of frontier gas resources -- including deep gas, tight sands gas and gas from deep waters offshore. Some frontier gas volumes became accessible as direct result of the higher wellhead prices, while other volumes became accessible as a result of new technology induced by the higher wellhead prices. In any case, America's gas 'inventory' was shown to be fluid instead of fixed.

In a variation on this theme, the subsequent drop in wellhead prices also expanded the scope of potentially accessible resources. Just as higher wellhead prices developed technology and expertise for reaching deep onshore and deep offshore gas, so lower wellhead prices induced more efficient drilling practices and development of lower-cost technology for tapping more gas from conventional onshore reservoirs. Once again, the resource base was shown to be "elastic".

Thus, we cannot say "how long" the nation's gas supplies will "last" if natural gas serves as a transportation fuel on a major scale. We can report, with recent history as our guide, that the domestic resource base will tend to grow as the nation's need to rely on it grows.

An Important New Study of Future Gas Supply and Demand

A November 1988 report, prepared by two former high-ranking DOE officials, concludes that the nation could increase its natural gas consumption by a substantial amount without triggering any disruptive distortions of the energy marketplace.

The study in question, issued by Washington Policy and Analysis, is entitled Natural Gas: A Strategic Resource For the Future. The two authors are William Martin and Scott Campbell, both of whom served as high-level DOE officials in the Reagan Administration.

One major focus of the study is possible change in overall gas supply and demand between 1987 and 2010.

Among other findings, the study concludes that, under an appropriate mix of low-cost public policy initiatives that are consciously designed to foster the increased use of natural gas, nationwide gas consumption could rise from the 1987 level of 17.1 Tcf to a new level of 24.1 Tcf in 2010. The study indicates that this major increase could occur without causing significant marketplace distortions, and the study explicitly addresses the question of how the necessary gas supplies can be obtained.

Apart from its substantive findings, the study is also historically significant for its methodology. The study is likely to represent a milestone in energy modeling because it provides the first independent analysis of the implications resulting from end-use technology developments and recent work in the area of gas resource base estimates.

Possible Impact of NGVs on Overall Gas Demand

We have attempted to develop, for purposes of gaining perspective on domestic energy security, some estimate of how large-scale use of NGVs might affect gas demand.

Our analytical task has been complicated by the fact that America has placed on the road a great mix of vehicles, with a great diversity in fuel consumption patterns that reflects

differences in engine type as well as major jumps in energy efficiency as we move from one "vehicle vintage" to another.

Table II indicates the diverse range of possible gas demand per vehicle, just among light duty vehicles.

Table II
ESTIMATED NATURAL GAS DEMAND PER VEHICLE PER YEAR*
In thousands of cubic feet (Mcf)

Type of Vehicle	Estimated Annual Gas Demand*
Old "Vintage" Passenger Car	100
Brand New Passenger Car	50
Average for all Passenger Cars, Old and New, On the Road in 1985	64**
Average for ALL LIGHT DUTY VEHICLES, Old and New, Including Light Duty Trucks, On the Road in 1985	76**

*Assumes exclusive use of natural gas.
**Derived from Department of Transportation data.

We estimate that if eight to ten million vehicles in the United States were converted to natural gas, they would only use approximately one trillion cubic feet of gas, or roughly six percent of our total annual consumption.

Since newly acquired diesel-fueled buses must soon meet EPA's 1991 emission standards for heavy-duty diesel engines, the Committee may be interested in an estimate of fuel consumption by natural gas buses. Although we do not have these data for municipal buses, we can use data held by the Department of Energy concerning fuel consumption by commercial buses in general, including intercity buses. Using these data as a starting point, we can offer a "ballpark" estimate that the average municipal bus, if using natural gas exclusively, would consume 860 Mcf per year.

While this consumption per vehicle is relatively high, the number of buses in America is relatively small. Almost 20,000 natural gas buses that use only natural gas would have to be placed in service before the increment of added gas consumption would reach one-tenth of 1% of the national gas consumption in 1987.

The Washington Policy and Analysis study referenced previously, Natural Gas: A Strategic Resource for the Future, provides a national perspective on possible gas demand for NGVs. The study speculates that, with low-cost but supportive public policies and vigorous efforts by the gas industry, natural gas could attain the following market shares by 2010:

- 5% of the mass market for passenger vehicles
- 25% of the market for public and private fleet vehicles (excluding military vehicles)
- 75% of the market for commercial buses

These are reasonably ambitious market penetration goals for the natural gas industry. Yet the study concludes that, even if these goals were reached, gas demand for NGVs would be 1.7 Tcf per year, a very manageable amount of gas. This is roughly 10% of the actual nationwide gas consumption in 1987.

Natural Gas Vehicles are Economical

In addition to the obvious environmental benefits of natural gas, it may also be the most economical of all alternative fuels currently available. The cost of fueling a vehicle with natural gas is currently estimated to be about 30% - 60% of the cost of fueling a vehicle with gasoline, including the additional cost of compressing the natural gas. The price per gallon equivalent of natural gas currently ranges from 40 to 75 cents. While the pump price of natural gas varies from region to region, much like gasoline, the typical sale price of natural gas averages approximately 62 cents per equivalent gallon. Furthermore, it should be pointed out that several gas companies, including A.G.A. and NGV Coalition member Pacific Gas and Electric Company, are developing a low pressure natural gas storage system that will significantly lower the overall cost of natural gas as a vehicle fuel by obviating the need for compression.

In addition to natural gas' lower pump price, and because of its clean burning qualities, natural gas offers significant savings in vehicle maintenance costs. Practical, on-road experience with natural gas vehicles shows that standard maintenance is half that of gasoline-powered vehicles. Many users report that oil changes need not occur more than every 10-20,000 miles, and spark plugs, points and other components have lasted up to 75,000 miles in some vehicles. My company, East Ohio, has realized lower operating and maintenance costs as a result of converting most of our vehicles to natural gas.

H.R. 2269 is Needed to Promote the Use of Clean Fuels

Many proposals have been introduced in Congress to amend the Clean Air Act. In recognition of the fact that motor vehicles cause much of the ozone and other pollution found in our cities, these proposals typically include provisions that rely heavily on the use of clean-burning motor vehicle fuel property to achieve improvements in air quality.

From the perspective of various affected parties, most of these proposals require the parties either to put capital at risk with little or no assurance of recovery of that capital or requirements that a small targeted group bear the economic burden of improving air quality for the entire population.

H.R. 2269 would provide a government incentive that works as a complement to many of the proposed clean air amendments. Because H.R. 2269 would provide economic incentives to purchase clean-burning motor vehicles, it could allay some of the concerns of both the groups required to supply the vehicles and the groups that are expected to provide the demand for the vehicles.

CONCLUSION

We believe that the air quality credits of H.R. 2269 can play an important role in improving air quality in urban areas in this country. H.R. 2269 could be a vital complement to any amendment to the Clean Air Act that Congress may pass in the near future. As noted, the proposals currently under consideration in Congress

suffer from the weakness that they cannot guarantee that consumers will purchase alternative fuel vehicles. H.R. 2269 provides an effective incentive to put alternative fuel vehicles on the road: it reduces the cost of the equipment on which the federal government will rely to attain cleaner air. This incentive could be particularly meaningful to the fleet operators who may be required to use alternative fuel vehicles since their payback periods for the incremental capital investment made in alternative fuel equipment could be reduced by as much as a year.

We strongly endorse H.R. 2269 and encourage this Committee to consider early passage of this much needed legislation.

sierra research

Report No. SR89-07-01

NATURAL GAS VEHICLES

A Review of the State of the Art

EXECUTIVE SUMMARY

prepared for:

The Natural Gas Vehicle Coalition

July 13, 1989

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Natural gas-fueled vehicles (NGVs) can produce much lower pollutant emissions than conventionally fueled vehicles, with consequent benefits for air quality in heavily polluted urban areas. However, full consideration of NGVs' potential is being inhibited by the absence of a clear understanding of the engine technologies available and their performance and emissions characteristics. Discussions with policymakers in the environmental field have revealed the existence of misconceptions about NGVs and their potential for reducing air pollution. The most common misconceptions about NGVs are that they necessarily have 1) short range, 2) high NOx emissions, and 3) poor performance compared to conventionally-fueled vehicles. This report is a first attempt to address these misconceptions, and to provide accurate and up-to-date information on NGV technology and emissions..

Natural Gas as a Fuel for Vehicles

Natural gas has many desirable qualities as an alternative fuel Clean-burning, cheap, and abundant in many parts of the world, it already plays a significant vehicular role in a number of countries. Natural gas vehicles have been used for more than 40 years, and several hundred thousand NGVs are now in use around the world, including more than 30,000 in the U.S..

The amount of U.S. natural gas estimated to be recoverable with conventional technology is enough to sustain present U.S. rates of consumption for approximately 70 years[1]. Large conventional gas reserves also exist in Canada and Mexico. Large quantities of additional gas are available in unconventional resources such as tight sands, coal seams, and geopressurized brines. Adding these unconventional resources to conventional reserves gives a resource base capable of supplying current North American consumption for 200 years. This is several times the North American reserve-to-production ratio for crude oil.

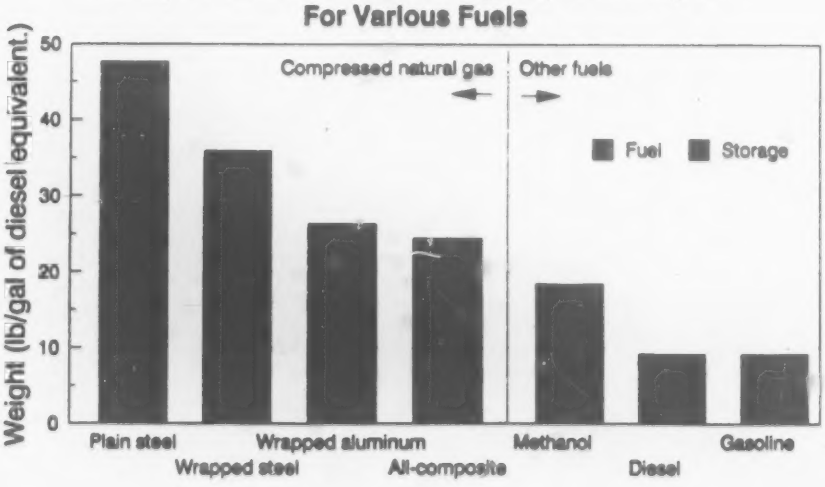
Natural gas is transported and distributed through a nationwide pipeline and distribution network, serving every major and most minor cities in the U.S. Compared to other forms of transportation, pipeline transport is both energy-efficient and environmentally benign. There is presently enough excess capacity in the natural gas pipeline system to serve about half the highway vehicles in the U.S.

Natural gas may be stored on-board a vehicle either as a compressed gas in high-pressure cylinders (CNG) or as a cryogenic liquid (LNG). Presently, CNG is used to a much greater extent than LNG for vehicular fuel, so that the remainder of this discussion will focus on CNG.

CNG storage cylinders are built to rigorous quality standards established by U.S. Department of Transportation Regulations, and they are extremely strong. Studies conducted in the late 1970s were unable to identify a single instance of a CNG cylinder failing due to collision damage, either in the U.S. or in Italy (where more than 300,000 natural gas vehicles are in use). This stands in sharp contrast to the record of collision-caused fuel leakage and fires in gasoline and diesel vehicles. Existing natural gas vehicles have compiled an excellent safety record.

The weight and bulk of the storage cylinders are often cited as drawbacks to CNG use. The volume occupied by CNG cylinders--about five times the volume of a diesel fuel tank or four times that of a gasoline tank with the same energy content--remains a problem. However, recent developments in high-strength composite materials have made it possible to reduce the weight of CNG cylinders substantially. Figure 1 compares the fuel system weight for the old-style steel CNG cylinders and several types of advanced cylinders with those of conventional fuel tanks for gasoline, diesel, and methanol. Using the latest storage technology, the fuel system for a CNG vehicle is only about 35% heavier than that of a methanol vehicle with equivalent range--a weight penalty of about 100 pounds in a mid-sized car or 700 pounds in a large truck. With modern technology tanks, the range of natural gas vehicles can be essentially equivalent to that of vehicles using other fuels.

Figure 1
Comparison of Fuel and Storage System Weights For Various Fuels



Natural Gas Engine Technology

Natural gas has excellent anti-knock characteristics and mixes easily with air--characteristics which make it well suited for use in Otto-cycle (spark-ignition) engines. Both gasoline and diesel engines have been modified to use natural gas in spark-ignition operation. Diesel engines can also be operated primarily on natural gas, with ignition supplied injecting a small amount of diesel fuel. This gas/diesel operation has certain advantages, but the emissions performance of such engines so far has been poor.

Otto-cycle natural gas engines are classified on the basis of the air-fuel ratio used into stoichiometric and "lean-burn" types. An air-fuel mixture with just enough air to react with all the fuel is called a stoichiometric mixture, and has normalized air-fuel ratio, λ, equal to 1.0. A mixture having excess air is lean, and has λ greater than 1.0. Figure 2 shows the typical variation in engine emissions as a function of λ.

Conventional stoichiometric or "rich burn" engines operate with the air-fuel ratio λ close to or somewhat less than 1.0. Engine-out NOx emissions tend be fairly high for these engines, but are controllable through use of a reduction or three-way catalyst and/or exhaust gas recirculation (EGR). The stoichiommetric approach provides the maximum power output for a given engine displacement and turbocharging level, but the fuel economy is generally worse than for a lean-burn engine.

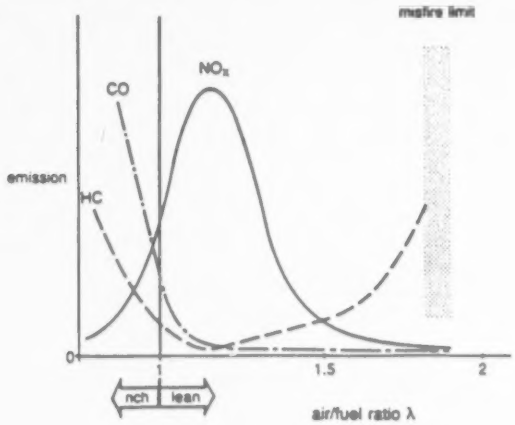
Most gasoline-type engines converted to natural gas use the stoichiometric approach. Such engines may be either dual-fuel (natural gas/gasoline) or dedicated to natural gas. In the latter case, a substantial increase in compression ratio is possible, due to the high knock resistance of natural gas (which is equivalent to a research octane number of about 130). This helps to improve the thermal efficiency and power output, and reduce exhaust temperatures. With the increased compression ratio possible using natural gas, an optimized stoichiometric engine can have power output equal to or slightly better than a comparable gasoline engine, with 10-15% better efficiency.

Given the same emissions control technology, NOx emissions from stoichiometric natural gas engines are about the same as those for gasoline engines, but CO and non-methane hydrocarbon emissions are usually much lower. Due to the good dilute-mixture combustion characteristics of natural gas, a dedicated stoichiometric natural gas engine could use higher EGR rates than a gasoline engine, to provide better NOx control. Combined with an effective three-way catalyst, this could result in very low emissions levels.

Figure 2 shows that engine NOx emissions decline dramatically as the air-fuel ratio is increased beyond about $\lambda = 1.3$. "Lean-burn" engines achieve low NOx emissions by operating with very lean mixtures -- λs in the range of 1.4 to 1.7, corresponding to 40 to 70% excess air.

Figure 2

Typical Variation of Emission Levels with Air-Fuel Ratio λ for an Otto-Cycle Engine[2] (does not apply to diesels).



Using this approach, makers of stationary natural gas engines can now routinely guarantee NOx emissions below 1.5 g/BHP-hr, without a three-way catalyst. This is 70% less NOx than will be permitted under 1991 federal and California standards for heavy-duty vehicle engines. In addition to NOx control, lean operation provides significant fuel economy benefits and reduced exhaust gas temperatures, leading to improved valve life and engine durability.

Since lean mixtures knock less readily than stoichiometric ones, lean-burn engines can use even higher compression ratios. Throttling losses in the lean-burn engine are also lower at a given power level, since the mixture containing a given amount of fuel occupies a larger volume. All of these effects help to increase the thermodynamic efficiency of the lean-burn engine compared to a stoichiometric type. Lean-burn natural gas engines commonly attain full-load thermal efficiencies of about 38-40%, which is comparable to those of diesel engines.

Diesel engines are also designed to run at lean air-fuel ratios, with high compression ratios and low exhaust-gas temperatures. These characteristics make them well-suited to lean-burn operation with natural gas. The major changes required to the diesel engine are to fit it for spark ignition, add an air-gas mixer, and to modify the compression ratio and combustion chamber shape for natural gas operation. The resulting natural gas engine typically has equal power output to the diesel, with somewhat higher maximum torque. Such engines are now in use in New Zealand and Canada, and the first

emission-controlled versions for U.S. use will be delivered in the latter part of 1989.

Environmental Impact of Natural Gas Vehicles

Natural gas vehicle engines usually have low CO emissions, due to the lower carbon content of the fuel, the absence of cold-start enrichment, and lower exhaust temperatures (which reduce the need for enrichment at full-throttle conditions to protect the exhaust valves). They are capable of achieving NOx levels as good or better than the best gasoline engines, and 50-80% lower than the NOx levels possible with diesels. For instance, recent tests on a heavy-duty stoichiometric engine with a three-way catalyst showed NOx emissions less than 1.5 g/BHP-hr, compared to a 1991 emissions standard of 5.0 g/BHP-hr. NOx emissions levels for lean-burn engines without catalysts are in the 2-3 g/BHP-hr range. Particulate emissions are also extremely low, and consist only of lubricating oil. Formaldehyde emissions from natural gas engines are comparable to those from gasoline or diesel engines.

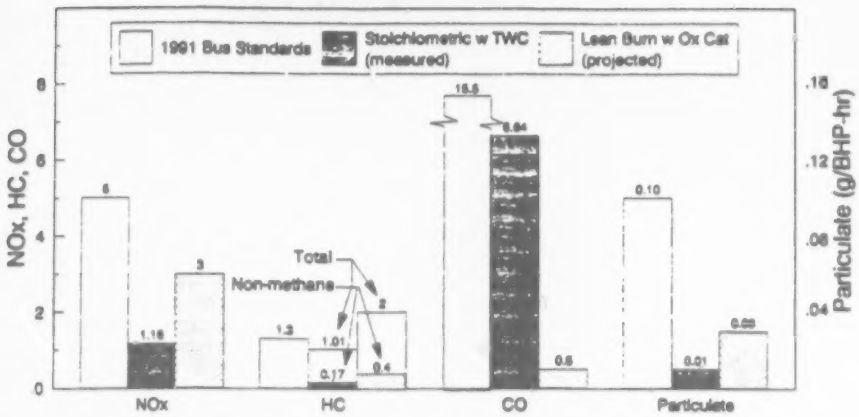
Total hydrocarbon emissions from natural gas engines tend to be two to three times higher than those from emission-controlled gasoline engines. However, the bulk of these HC emissions is made up of methane, which has very low photochemical reactivity, and does not contribute significantly to ozone. Total non-methane hydrocarbons (NMHC) from natural gas engines are usually well below the NMHC emission levels for similar gasoline engines. The NMHC are made up largely of ethane and other hydrocarbons having low photochemical reactivity. The average photochemical reactivity of the non-methane hydrocarbons from a natural gas vehicle is about one twentieth that of the NMHC from a gasoline engine, and probably somewhat lower than that of the organic emissions from methanol engines.

Much of the present interest in natural gas engines is due to the promise they show for being able to meet the strict federal and California emissions standards for heavy-duty engines that will take effect in 1991. Figure 3 compares the measured transient emissions from a stoichiometric natural gas engine equipped with a three-way catalyst and projected transient emissions for a lean-burn engine with oxidation catalyst with the 1991 emissions standards for diesel bus engines. As the figure shows, emissions from both engine types are far below the diesel bus standards, except for total hydrocarbons.

Presently, no federal emissions regulations exist for natural gas vehicles, nor have any been formally proposed. California emissions regulations for light-duty vehicles apply to natural gas and other fuels, as well as gasoline and diesel. California has also proposed emissions regulations for heavy-duty natural gas and LP gas engines.

A key feature of the California regulations is that the HC standard applies to non-methane hydrocarbons only, since methane does not contribute to ozone. This is more significant for natural gas vehicles than for others, due to the relatively large fraction of

Figure 3
Emissions From Heavy-Duty Natural Gas Engines
Compared to 1991 Bus Standards



methane in their hydrocarbon emissions. Present federal regulations for gasoline and diesel vehicles apply to <u>total</u> hydrocarbons (including methane). The Natural Gas Vehicle Coalition has recommended that any future emission regulations for natural gas vehicles apply only to non-methane hydrocarbons.

A reservation that is sometimes expressed regarding natural gas vehicles concerns the potential effect of methane emissions on the the forecasted global warming. Methane is an even more effective greenhouse gas than CO_2. On the other hand, CO_2 emissions from natural gas vehicles are lower, since natural gas contains less carbon per unit of energy than any other fossil fuel. This more than offsets the additional methane emitted. Researchers at U.C Davis[3] have calculated that natural gas use would result in about a 19% reduction in "CO_2-equivalent" emissions compared to gasoline and diesel fuel, and a 16.5% reduction in CO_2-equivalent emissions compared to methanol made from natural gas.

<u>Emissions Testing and Measurement</u>

To perform accurate and reproducible emissions tests on natural gas vehicles and engines, some changes in the existing Federal test procedures will be required. The two most significant changes required are:

1. direct measurement techniques for non-methane hydrocarbons; and

2. use of a standard test fuel specification.

EPA measurement procedures for total hydrocarbons from gasoline and diesel vehicles rely on a flame ionization detector (FID). The FID response to nearly all hydrocarbon species is essentially proportional to the number of carbon atoms present. Presently, EPA determines non-methane HC emissions by separately measuring total HC (by FID) and methane (by an FID in combination with a gas chromatograph). A commercial instrument called a "methane cutter" is also available. It is claimed that this device quantitatively oxidizes all of the non-methane HC (by catalytic means) while leaving the methane to be measured by FID. Non-methane HC in each case are then calculated by subtracting the methane content from the total.

This approach is acceptable when methane makes up only a small fraction of the total HC. For natural gas vehicle exhaust, however, methane is typically 75 to 90% of the total. For this case, the problems inherent in taking the difference of two large numbers produce an unacceptable degree of uncertainty in the results.

To correct this problem, it will be necessary to develop a method for direct measurement of non-methane HC in the exhaust gas. The best approach appears to be to separate the exhaust hydrocarbons with a gas chromatograph, equipped with a flame ionization detector and electronic integrator. A variation of this approach is used routinely for measuring non-methane HC emissions from stationary sources in California.

Like other hydrocarbon fuels, natural gas varies from supplier to supplier and from time to time for the same supplier. Variations in the Wobbe number with different gas compositions will affect the air-fuel ratio of the engine, which could significantly affect emissions and driveability. The non-methane hydrocarbon content of the fuel gas is also likely to have a significant effect on NMHC emissions. The great bulk of the NMHC from a natural gas engine is apparently derived directly from the non-methane HC in the fuel. Large variations in the non-methane HC content of the test fuel could thus produce large changes in the emission results. An engine which met the standards using one gas might fail using another one. This could clearly make it very difficult for either the regulators or the manufacturer to know whether an engine was in compliance or not.

To avoid similar problems due to variations in diesel and gasoline fuel qualities, EPA has established tight specifications for gasoline (indolene) and diesel fuel for use in certification testing. The Natural Gas Vehicle Coalition has recommended that EPA establish a similar specification for "certification" natural gas. Recommended interim specifications for this fuel were developed in this study, and are listed in Table 1. These specifications are based on average data from a survey of 120 gas compositions for distribution utilities. They are designed so that--in many cases--it will be possible to produce the test fuel by "spiking" regular distribution gas with specified quantities of ethane, propane, and inert gases.

Table 1

Recommended Interim Specifications For Natural Gas
For Use in Emissions Certification Testing

Specification	Value	Toler.	Method
Wobbe Number	1350	+/- 20	Calc. from ASTM D 1945 using AGA Bull. No. 36
Hydrocarbons (expressed as % of total organic carbon present)			
Methane	88%	+/- 0.5%	Calc. from ASTM D 1945
Ethane	8%	+/- 0.3%	Calc. from ASTM D 1945
C_3 and higher HC	4%	+/- 0.2%	Calc. from ASTM D 1945
C_4 and higher HC	0.5%	maximum	Calc. from ASTM D 1945
Total unsaturated HC	0.5%	maximum	Calc. from ASTM D 2650
Other Species (expressed as mole %)			
Hydrogen	0.1%	maximum	ASTM D 2650
Carbon Monoxide	0.1%	maximum	ASTM D 2650

Other Requirements

Free from liquids over the entire range of temperatures and pressures encountered in the engine and fuel system.
Free from solid particulate matter.

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EXECUTIVE SUMMARY

DRIVE FOR CLEAN AIR

NATURAL GAS AND METHANOL VEHICLES

JAMES S. CANNON
INFORM Senior Energy Consultant

The Need for Alternative Fuels

Over 178 million cars, buses and trucks travel some 3.9 million miles of U.S. roads and highways, consuming more than 126 billion gallons of gasoline and diesel fuel a year. With the use of these vehicles, which are so much a part of our American way of life, have come two critical problems:

- Emissions from gasoline and diesel burning vehicles have made the air a threat to health for over one third of the U.S. population, living in over 80 major urban areas that do not meet air quality standards. While significant progress has been made in reducing these vehicles' emissions of major pollutants, urban air pollution still poses one of the largest threats to public health in the U.S.

- Gasoline and diesel burning vehicles have created a dependence on imported oil that threatens our national energy security and balance of trade. The U.S. now imports over 40% of its oil, with transportation consuming even more than we import.

During the past decade, government leaders and environmentalists have increasingly pointed to the need for alternative transportation fuels as a way to address these problems. INFORM's report, based on two and a half years of research in seven states and three foreign countries, sheds light on the environmental benefits, economic value and practical applications of two alternative fuels, methanol and natural gas. These are the two fuels that possess five characteristics essential to viable alternative fuels for the next few decades: supply sufficient to fuel a significant part of the U.S. vehicle fleet, potential cost-competitiveness with gasoline and diesel fuel, environmental performance superior to these oil-derived fuels, the potential for widespread commercial use, and the ability to be used independently of gasoline or diesel fuel.

Natural Gas and Methanol: Their Current Use and Technological Development

Natural gas (also called methane) is a naturally occurring substance. Methanol is an alcohol fuel manufactured mainly from natural gas. Both fuels can also be made from coal or biomass.

Some 500,000 natural gas vehicles are in use world wide, with 30,000 in the U.S. About 800 methanol vehicles operate world wide, with 600 operating in the U.S., mainly in a state-sponsored pilot program in California.

Despite the greater number of natural gas vehicles in use, a much larger U.S. research and development effort has been devoted to methanol vehicle technology, covering a wider range of engine designs than for natural gas. Most of the natural gas vehicles on U.S. roads are "dual fuel" vehicles capable of burning gas or gasoline, whose engines have been converted from conventional gasoline engines. Most of the methanol vehicles on U.S. roads are "dedicated" vehicles, manufactured by automobile companies to burn only methanol, although "flexible fuel" methanol vehicles, which can burn mixtures of methanol and gasoline, are rapidly gaining in popularity.

The technologies for both natural gas and methanol vehicles are still at an early stage of development compared to gasoline and diesel engines developed over the past 75 years.

INFORM's Findings

INFORM's overall findings are that natural gas holds significantly greater promise than methanol with regard to environmental benefits, safety, energy security and fuel supply, and cost. Methanol vehicles achieve some pollution reduction gains over gasoline, and the faster acceleration and greater power of these vehicles, combined with drivers' familiarity with liquid fuels, have attracted significant government attention to methanol. However, in light of INFORM's findings, continued government focus in the U.S. on methanol almost to the exclusion of natural gas is unwarranted. Some of INFORM's key findings are summarized below.

<u>While both alternative fuels offer air quality advantages over gasoline and diesel fuel, natural gas can reduce emissions of the major air pollutants, except nitrogen oxides, to an equal or greater degree than methanol</u>.

- Reactive hydrocarbons, a key cause of urban smog, are reduced by about 50% by both fuels. Advanced technology may reduce these emissions by as much as 95%.

- Carbon monoxide is reduced dramatically with natural gas -- by as much as 90%. Today's methanol engine designs do not significantly redute carbon monoxide, although more advanced methanol technologies may do so.

- Virtually no reductions are achieved in nitrogen oxide emissions (another component of smog) using either fuel, and some natural gas engines tested have shown an increase in this pollutant. Advanced technology may reduce nitrogen oxide

emissions from both fuels, but especially methanol, compared to gasoline.

- Natural gas use reduces carbon dioxide emissions by 15%, while methanol use produces no reduction in this critical contributor to global warming. Although vehicles burning methanol have reduced carbon dioxide emissions compared to gasoline, the manufacturing of methanol from natural gas generates carbon dioxide, so that on a life-cycle basis, there is no reduction in this pollutant from methanol use.

- Significant emissions of toxic hydrocarbons, known as aldehydes, are produced by methanol but not by natural gas. In addition to being toxic even in small quantities, aldehydes are highly reactive in forming smog.

- Both methanol and natural gas virtually eliminate emissions of particulates. As a result, the use of either fuel in diesel buses and trucks could prove to be one of the best ways of reducing particulate air pollution. (One diesel bus can emit 500 times as much particulate matter as an automobile.)

Natural gas vehicles have an excellent safety record, while methanol cannot at this point be given a clean bill of health. The major safety issue raised by natural gas use in vehicles involves the storage of the gas in high-pressure storage tanks. However, the safety record of pressurized natural gas vehicle storage systems is excellent. In the U.S., no deaths and few accidents have been associated with failures of natural gas storage tanks during the 434.1 million miles of accumulated driving of natural gas vehicles. Furthermore, should a tank rupture, the natural gas would dissipate in the atmosphere quickly because the gas is lighter than air. Gas is ignitable only when the air-fuel mixture is between 5 and 15% natural gas.

Health and safety problems posed by methanol, while not well-recognized publicly, are substantial:

- If ingested, the fatal dose for methanol is two ounces, compared to eight ounces for gasoline.

- Methanol vapors are toxic, odorless and about as heavy as air, making the risk of accidental exposure to toxic vapors greater than for gasoline.

- Methanol is flammable over a wider range of concentrations in the air than gasoline and burns with an invisible flame.

- Methanol, unlike gasoline, is highly water-soluble, posing risks to groundwater and enclosed surface waters in the event of spills or storage tank leaks. While methanol biodegrades more quickly than gasoline, cleanup of methanol spills into water would be very difficult or impossible. However, dispersion of methanol spilled in an ocean or other very large

water body would quickly reduce methanol concentrations to a safe level.

- Methanol is more readily absorbed through the skin than gasoline, creating a risk of toxic exposure if the fuel splashes on a person refueling a vehicle or otherwise handling the fuel. Self service gas stations could be a thing of the past with this fuel.

Use of natural gas as an alternative vehicle fuel would clearly provide U.S. energy security benefits, while most methanol supplies would have to be imported. Natural gas sufficient to meet 15% of U.S. transportation needs could be supplied by North American gas reserves, or possibly U.S. reserves alone. (To achieve more than a 15% share of the transportation fuels market over the next two decades would be unlikely.)

While our domestic gas supplies could be used to make methanol, current methanol production capacity in the U.S. could meet barely 1% of our transportation fuel needs. Building methanol facilities capable of supplying 15% of U.S. transportation needs would cost over $30 billion. In addition, the process of converting gas to methanol results in a 40% energy loss.

Most future methanol production facilities are expected to be built in foreign countries with access to low-cost natural gas. The relatively high cost of natural gas production in the U.S. compared to some gas fields overseas makes it unlikely that domestically produced methanol will be cost competitive with imported methanol. While conversion of natural gas to methanol abroad could spur development of natural gas deposits now too remote from markets to justify their exploitation, this production, too, would require huge investments, since current world methanol production capacity could supply only about 3% of U.S. transportation fuel needs.

Importing methanol, which has only half the energy value of gasoline, would require about twice as much tanker capacity for the same amount of energy, increasing the risk of accidents and spills.

Natural gas vehicles should become increasingly economical compared to gasoline fueled vehicles, whereas it is unlikely that methanol vehicles will be consistently cost-competitive with gasoline vehicles within the next decade. Natural gas is cheaper than gasoline and is expected to remain so. The wellhead price of natural gas in the U.S. (about 21 cents for the energy equivalent of a gallon of gasoline) is currently less than half the wholesale price of gasoline (55 cents a gallon).

The major economic issues for natural gas are the costs of producing vehicles equipped to burn this fuel and of creating the service station infrastructure to deliver the fuel. (A nationwide network of natural gas pipelines already exists which

can deliver natural gas to most of the transportation market.) The capital costs involved (up to $150,000 per filling station and $1,500-$2,300 per vehicle) now largely erase the fuel price advantage held by natural gas, except in the case of vehicles such as taxis and other commercial vehicles receiving heavy use. However, mass production of natural gas vehicles is expected to lower vehicle costs substantially.

The wholesale fuel cost of methanol is higher than gasoline (about 99 cents for the energy equivalent of a gallon of gasoline), largely due to the cost of producing it. Future wholesale methanol prices are projected to range from 30% to 230% more than the current cost of gasoline on an equivalent energy basis. Methanol use would involve fewer vehicle and filling station modifications, since it is a liquid fuel. However, methanol, like gasoline, would have to be delivered by truck, and since methanol has half the energy value of gasoline, more trucks would be needed to transport the same amount of energy.

Current methanol and natural gas vehicles each have some performance advantages over gasoline and diesel vehicles, but they also have some performance problems which are being addressed by research and development efforts. Vehicle fuel economy is 5-10% better with natural gas and methanol vehicles, and operating costs are significantly lower with these fuels than with gasoline or diesel fuel.

Methanol use improves an engine's power performance by 8%, but the current generation of natural gas vehicles suffers more than a 10% power loss, partly due to the physics of gas combustion and partly due to the heavy equipment required to store natural gas in vehicles, which can add up to 500 pounds to the weight of the car. And only two or three natural gas storage cylinders can be installed in a vehicle due to their size, limiting the driving range to less than 300 miles between refuelings. Smaller and lighter weight gas storage cylinders are being developed.

Methanol is corrosive, causing many metal and elastomeric (flexible rubber) vehicle parts to corrode, swell or become brittle. Methanol compatible substitutes for these parts can cost up to several hundred dollars per vehicle. Methanol vehicles are also difficult to start at temperatures below 50°F, requiring fuel additives or an ignition enhancing system. (Both fuels need spark plugs or ignition enhancers to start in diesel trucks or buses.)

Another barrier to wider use of natural gas and methanol in vehicles is the absence of strong industry participation. Vehicle producers are wary of manufacturing alternative fuel vehicles because there is only a limited fuel supply and refueling station infrastructure. Suppliers are hesitant to invest in refueling stations until an alternative fuel vehicle market exists. This is known as the "chicken and egg dilemma," a problem which government action could help overcome.

While the natural gas industry operates about half of the 30,000 natural gas vehicles (mostly converted) on U.S. roads, it has nevertheless not placed sufficiently large purchase orders with the automobile manufacturers to gain their interest in producing natural gas vehicles. Nor has the natural gas industry to date lobbied aggressively enough to counteract government emphasis on methanol.

Federal government involvement in natural gas and methanol vehicle programs has been minimal and heavily focused on methanol, while state and local governments have initiated some of the most innovative and comprehensive programs to date. Although federal government interest in alternative fuels has increased over the past few years, total federal government involvement in natural gas and methanol vehicle programs to date can be measured at no more than several million dollars, compared to investments of over $10 million each by governments in New Zealand and Canada -- countries with only a fraction of the number of the cars that travel U.S. roads.

Most federal agency programs have followed the lead of the U.S. Environmental Protection Agency, where strong proponents of methanol have seen making this fuel from coal as a long-term way to use the nation's abundant coal reserves.

The seven states and range of local governments that have adopted natural gas and/or methanol vehicle programs have done so mainly without federal support. California operates the largest program by far, involving an investment to date of more than $10 million and heavily favoring methanol as a liquid fuel and as a fuel that state-sponsored studies have identified as offering ozone reduction potential.

Strong support by both government and industry has been essential to the success of natural gas vehicle programs in foreign countries. Some 470,000 natural gas vehicles operate outside the U.S. (and about 200 methanol vehicles). In New Zealand, with 10% of all cars running on natural gas, or 120,000 cars, and in Canada, with 17,000 natural gas vehicles, major government involvement has included, in addition to research, standard-setting, licensing, economic incentives and advertising, activities virtually absent from federal government involvement in the U.S.

Natural gas industry programs in New Zealand have included vehicle conversion training, vehicle testing, registration and warranty programs, low interest loans and broad-based advertising. These programs, too, are virtually absent in the U.S.

Conclusions

Natural gas and methanol as alternative transportation fuels both have, to varying degrees, clear potential to reduce urban air pollution in the U.S. Use of U.S. natural gas supplies or of domestically produced methanol could also enhance national energy security. Moreover, Congress will undoubtedly set new compliance deadlines for public health standards for automotive air pollution, creating pressure for the use of cleaner-burning alternative fuels in future urban air-pollution control efforts. From INFORM's alternative fuels study, some key conclusions can be drawn:

While natural gas offers much greater promise for major pollution reductions and energy security gains, there is reason to pursue both fuels now. Not enough is known about the full potential of either fuel to warrant excluding either one totally from alternative fuel programs at this point.

Greater and more balanced government support for the use of both fuels is needed. This would include not only more research and development. Governments at all levels, for example, could help create a market for alternative fuel vehicles and encourage auto manufacturers to produce them, even without an alternative fuel supply infrastructure in place. One effective way would be to mandate or provide incentives to government and private fleet operators to place large purchase orders for alternative-fuel vehicles with auto manufacturers.

Government could encourage consumer confidence in alternative fuel vehicles in several ways. Most important would be to establish standards of design, performance, fuel economy and emissions for alternative fuel vehicles and to establish licensing requirements both for businesses that convert vehicles to alternative fuel use and for those that service alternative-fuel vehicles. Government incentive programs and advertising could also help to establish a market for alternative fuels.

If alternative fuel vehicles are to penetrate the automotive and diesel markets in the long term, greater private sector participation and direction are also prerequisites. This would include greater involvement by automobile manufacturers (probably stimulated by purchase orders or pressures from outside the industry). It might also include incentives for consumers and service station owners from auto manufacturers, natural gas companies and methanol producers.

To encourage natural gas use in vehicles, natural gas companies, in particular, must either become more effective in promoting government-sponsored natural gas vehicle programs or develop other strategies. The natural gas industry itself presents a substantial enough vehicle market to capture the attention of automobile manufacturers by placing large purchase orders (5,000 or more vehicles) that rival the methanol vehicle purchases

contemplated by several government agencies. Secondly, the industry could work directly with automotive companies and end-users, as exemplified by the Brooklyn Union Gas Company bus program, to help design and test natural gas vehicles. Alternatively, natural gas companies could assist the growth of the emerging alternative fuels "cottage industry" by placing orders for natural gas vehicle-conversion equipment and by assisting in conversion equipment research and standardization.

Research and development need to be expanded for both fuels, with a focus on field testing of alternative fuel vehicles under closely-monitored, "real world" operating conditions before large-scale commercialization can occur.

In addition, future technology development strategies need to maintain diversity in alternative fuel vehicle design concepts, encompassing alternative fuel use in gasoline and diesel-burning vehicles, in dedicated and multiple-fuel engines and in retrofit and original vehicle equipment.

Closely monitored alternative-fuel programs undertaken as part of urban pollution-control efforts are clearly a wise application for natural gas- and methanol-burning vehicles for the next few years. Such alternative fuel programs, while certainly reducing air pollution, could provide the experience and data that are vitally needed to advance commercially attractive alternative fuel technologies while gaining time to overcome barriers to the use of these fuels.

The two most promising near-term opportunities for both fuels are their use in commercial and government fleet vehicles, and their use in diesel vehicles to meet the strict new emission standards for particulates (soot) and nitrogen oxides, that will go into effect for buses in 1991 and other diesel vehicles by 1994.

INFORM, Inc., founded in 1973, is a nonprofit research and education organization that identifies and reports on practical actions for the protection and conservation of natural resources and public health. INFORM's research is published in books, abstracts, newsletters and articles. Its work is supported by contributions from individuals and corporations and by grants from over 40 foundations.

Special advance publication copies of *Drive for Clean Air: Natural Gas and Methanol Vehicles* are available from INFORM, 381 Park Avenue South, New York, NY 10016, (212) 689-4040 for $50.00, prior to publication on September 1, 1989. After that date the bound book will sell for $65.00 per copy.

Mr. ANDREWS. Thank you, Mr. Gifford. That was, of course, excellent testimony.

Mr. DiBona.

STATEMENT OF CHARLES J. DiBONA, PRESIDENT, AMERICAN PETROLEUM INSTITUTE

Mr. DIBONA. Thank you, Mr. Chairman. My name is Charles DiBona. I am president of the American Petroleum Institute, a trade association representing all segments of the petroleum industry.

We support the development of constructive policies to address our Nation's environmental concerns, and are taking a series of steps within our own industry to improve our environmental performance.

However, before the Congress commits to any environmental programs, whether through the tax system or other means, we urge that such initiatives be clearly demonstrated to be the most effective and efficient means to accomplish worthwhile environmental goals, taking into account other desirable goals such as energy security, international competitiveness, equity, and economic efficiency.

One of the subjects of this hearing provides an excellent example of these concerns, that is, the effect on air pollution and energy conservation of an increase in the gasoline tax. Such increases have been proposed recently for other purposes, such as reducing the deficit and rebuilding the infrastructure. Consequently, we have analyzed and considered the proposal thoroughly. We believe that a large increase in the Federal gasoline tax is bad environmental policy, bad economic policy, and bad energy policy.

On environmental grounds, an across-the-board increase in the gasoline tax ignores two of the main features of the emissions problem.

First, on a regional basis, there are enormous variations in air quality. Some areas already meet the air quality standards for ground level ozone, while others do not. An across-the-board tax increase raises driving costs in rural Montana by exactly the same amount as in downtown Los Angeles, with little, if any, environmental justification for the former increase.

Second, the extent of the emissions problem is heavily influenced by the emissions concerns in automobiles, and a disproportionate amount of emissions comes from older model cars. General Motors estimates that 1974 and older model cars, while comprising only 8 percent of passenger vehicle miles traveled in the United States in 1987, accounted for 31 percent of carbon monoxide emissions, 29 percent of hydrocarbon emissions, and 19 percent of nitric-oxide emissions. By contrast, 1983 and newer vehicles, which accounted for 49 percent of total passenger vehicle miles traveled, accounted for only about 8 percent of carbon monoxide emissions, 8 percent of hydrocarbon emissions, and 19 percent of nitric-oxide emissions.

Older cars do have lower fuel economy, and their emissions would, therefore, be indirectly targeted by an across-the-board increase. However, the proportionate difference in emissions from old

and new cars is far greater than the corresponding differences in fuel economy.

Because of this, a gasoline tax increase is clearly a clumsy and inefficient instrument for targeting emissions. The Office of Technology Assessment estimates that reducing emissions with a gasoline tax increase would cost $35,000 to $75,000 per ton initially, and $100,000 to $200,000 per ton over the longer term, with no assurance that such reductions are concentrated in areas where they are beneficial.

Both as economic and energy policy, an increase in the gasoline tax is even lesser recommended. In a study conducted for API last year by Data Resources, it was estimated that a phased-in tax increase of 50 cents per gallon would raise the Consumer Price Index by more than 2 percent within a year; reduce GNP by between 1.4 and 2 percent within a year; decrease employment by 1.4 million within 2 years; and reduce any net revenue gain to the Government anywhere from 30 to more than 60 cents of each dollar of direct gasoline tax revenue.

While such a tax, by lessening U.S. consumption, would reduce U.S. dependence on imported oil, it is clear from the figures that I have just cited that it does so in an extremely costly way. The Department of Energy estimates that the costs imposed by such a tax would amount to more than 100 times any security benefits attributable to such a reduction in dependence.

There are a number of other issues presented by this hearing which are of concern to our industry. Our written statement, which will be submitted for the record, will also address so-called oil production tax subsidies, and their effect on the environment, the inland waterway barge fuel tax, the section 29 alternative fuels credit, tax incentives for enhanced oil recovery, and other suggestions for ways the tax system could be used to improve the environment.

Thank you very much, Mr. Chairman.

[The statement of Mr. DiBona follows:]

STATEMENT OF THE
AMERICAN PETROLEUM INSTITUTE

HEARING ON FEDERAL ENVIRONMENTAL TAX POLICY
WAYS AND MEANS COMMITTEE
MARCH 6, 1990

This statement is submitted to the Ways and Means Committee on behalf of the American Petroleum Institute to accompany the testimony of Charles J. DiBona, President of API, for the March 6, 1990, hearing on Federal Environmental Tax Policy. The API is a national trade association serving about 6,000 individual and over 200 corporate members engaged in all facets of the petroleum industry.

ENVIRONMENTAL TAX POLICY - IN GENERAL

The API recognizes that environmental issues are of extreme importance to the long term health and welfare of the nation and strongly supports the cost effective protection and improvement of the environment. We commend the Committee's decision to review the relationship between the tax code and the environment, and to study the manner in which the tax system can be used to promote environmental goals. It is quite clear that, for good or for ill, the tax system can be used to encourage or retard certain behaviors. Therefore, before enacting any environmentally based tax provisions, three basic questions should be answered: First, is the environmental goal being promoted the proper one? Second, is the particular tax change involved an efficient mechanism for achieving the goal? And, third, is the tax change a fair and balanced approach that does not cause undue hardship on particular businesses or individuals.

Today, environmental legislation and regulations are being developed and proposed in many different areas at both the Federal and state level. Changes made to meet new environmental standards often come at heavy costs. As a society, we must decide not only whether a particular environmental improvement is desirable, but also whether the benefits to be gained outweigh the costs. In order to make that determination, federal and state environmental goals must first be clearly defined. Then, the benefits to be derived from any environmental initiative must be weighed against the costs of the initiative. And, finally, it must be carefully analyzed within the broader framework of all national goals, taking into account its effects on national security, international competitiveness, and macroeconomic performance. Until such analysis is complete, further changes to the tax code should not be proposed. Otherwise, the tax law may prematurely encourage or discourage activities inconsistent with environmental policies or other national goals.

In general, the API believes that market forces should be relied upon to implement any long-term environmental objective. The government should establish the standards to be achieved on the basis of benefit-cost considerations, but not mandate the processes to be utilized.

While the tax system is one of a number of tools that may be used to promote environmental objectives, it can be a powerful tool and should be used prudently. Virtually every action taken by the government will have some effect on domestic growth and international competitiveness, but few actions have as great an impact as tax policy. Taxes alter the relative prices of goods and services, and relative prices affect the allocation of resources, capital and income. Therefore, use of the tax system should be evaluated on the basis of whether specific tax incentives or penalties are the most efficient, effective, and equitable means of achieving a particular environmental objective.

In considering the relationships between the tax code and the environment, the use of the tax code purely to fund government environmental programs must also be mentioned. As a general guideline, in the interest of equity, tax policy should avoid imposition of industry-specific taxes, particularly to provide for environmental expenditures related to past actions. These expenditures can be most fairly funded by using as broadly-based a mechanism as possible. Thus, general revenues would be the best mechanism for providing the funding. In the event that current budget deficit targets do not allow for the use of general revenues, Congress should strongly consider use of a broad-based tax such as the Environmental Tax imposed in IRC Section 59A. This tax was enacted as part of the Superfund Amendments and Reauthorization Act of 1986 and is strong evidence of Congress' recognition at that time of the need to provide a broad funding base for large environmental expenditures for past actions.

Below are comments on specific areas highlighted in the hearing notice. In many areas, careful study is required to determine whether a particular tax change would be environmentally beneficial.

ENVIRONMENTAL TAX POLICY - SPECIFIC PROPOSALS

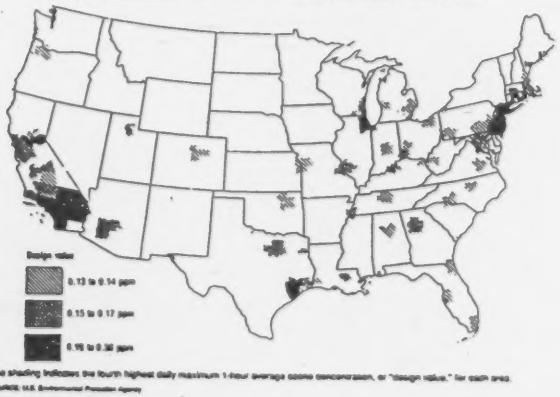
Increases in the Gasoline Tax

An increase in the gasoline tax is not a new proposal. Such increases have been previously proposed with other justifications such as deficit reduction and infrastructure reconstruction. Previous analyses of such proposals, by API and others, have concluded that an increase in the gasoline tax is bad environmental policy, bad economic policy, and bad energy policy.

On environmental grounds, an across the board increase in the gasoline tax fails to provide the flexibility needed to address the two most salient characteristics of the emissions problem: its regional character and the preponderant influence of old cars in such emissions.

On a regional basis, there are enormous variations in air quality. Some areas meet the air quality standards for ground level ozone, while others do not[1], as seen below.

Figure 1-1.—Areas Classified as Nonattainment for Ozone Based on 1983-85 Data



The shading indicates the fourth highest daily maximum 1-hour average ozone concentration, or "design value," for each area.
SOURCE: U.S. Environmental Protection Agency

[1] See, for example, U.S. Office of Technology Assessment, Catching Our Breath: Next Steps for Reducing Urban Ozone, Washington, D.C. 1989.

The standards are set at a level that protects public health with an ample margin of safety, so that there may be relatively little to be gained from emissions reductions in areas already meeting such standards. Cost effectiveness is enhanced by effective targeting of the areas not currently attaining these standards. An across the board tax increase fails to provide such targeting. Similarly, it should be emphasized that the extent of the emissions problem, whether it be carbon monoxide (CO), hydrocarbons (HC), or nitrogen oxides (NOx), is heavily influenced by the emissions controls in automobiles. Newer model cars have been equipped with much more sophisticated and effective systems.

As a consequence, a disproportionate amount of emissions is currently accounted for by older model cars. General Motors estimates that in 1987, 1974 and older model cars, while comprising 8% of passenger vehicle miles travelled in the U.S., accounted for 31% of CO emissions, 29% of HC emissions, and 19% of NOx emissions. By contrast, 1983 and newer vehicles, which accounted for 49% of total passenger vehicle miles travelled, accounted for only 8% of CO emissions, 8% of HC emissions, and 19% of NOx emissions. Since older cars have lower fuel economy, a gasoline tax increase could be expected to have the effect of indirectly "targeting" such old car emissions. However, it is a very clumsy and ineffective instrument for such targeting, since the proportionate differences in emissions between old and new vehicles is far greater than corresponding differences in fuel economy.

In summary, an across the board increase in gasoline taxes would result in a reduction in driving, and presumably emissions, but in an arbitrary and inefficient way in which costs would be imposed on consumers in a manner unrelated to the achievement of environmental goals. The Office of Technology Assessment estimates that reducing volatile organic compounds (VOCs) with a gasoline tax increase would have a tax cost of $35,000 to $75,000 per ton of VOC emissions initially, and $100,000 to $200,000 per ton over the longer term, with no assurance that such reductions are concentrated in areas in which they are beneficial. Cost-effectiveness would be enhanced by tailoring program requirements to target problem areas. An across the board increase simply does not permit such flexibility.

As we have previously pointed out, as economic policy, an increase in the gasoline tax has even less to recommend it. In a study conducted for API last year by Data Resources[2], it was estimated that a phased-in tax increase of 50 cents per gallon would raise the U.S. consumer price index by more than 2% within a year of its introduction, causing not only a reduction in gasoline consumption but in other consumption as well due to the decline in real income. Such a change was estimated to reduce US GNP by between 1.4% and 2% within a year, equivalent to an annual loss of as much as $100 billion. Within 2 years of such a tax increase, DRI estimated that employment would be 1.4 million lower than it would have been without such a change. While the declines in industrial production would be proportionately largest in the petroleum refining sector, declines would also be widely distributed throughout the economy, particularly in the automobile industry and its principal suppliers. Finally, the reduction in economic activity attributable to the tax significantly reduces any net revenue gain to the government from the tax. In the DRI study, anywhere from 30 cents to more than 60 cents of each dollar of direct tax revenue from gasoline taxes are lost due to diminished economic activity. Moreover, while the magnitude of the tax increase analyzed in the DRI study contributes to the severity of the impacts, the general nature of such impacts is confirmed by other studies done over the past several years. The Department of Energy in 1987 estimated that a 10 cent per gallon tax increase would result in a nearly 10

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[2] Data Resources, "The Macroeconomic Effects of an Increase in the Federal Tax on Gasoline," April 18, 1989.

billion dollar annual loss in GNP, and a 25 cent per gallon increase would result in a nearly 23 billion dollar annual loss[3]. Similarly, a 1987 study by Wharton Econometric Forecasting Associates (WEFA) found a nearly $1 billion dollar annual GNP loss per 1 cent increase in the tax[4].

Furthermore, an increased gasoline tax represents bad energy policy. While such a tax, by reducing U.S. consumption, would reduce U.S. dependence on imported oil, it would do so in an extremely costly way. The Department of Energy estimates that the costs imposed by such a tax would amount to more than 100 times any security benefits attributable to such a reduction in dependence.

Finally, studies of the distributional aspects of gasoline taxation have shown the tax to be highly regressive. In a study by DRI, for example, it was estimated that the proportionate reduction in living standards (as measured by spending) attributable to a 50 cent increase in gasoline taxes was nearly 2.3% for persons earning from $10,000 to $20,000, which was nearly double the impact on those earning more than $80,000[5].

To summarize, an across the board increase in the gasoline tax, while likely to reduce aggregate vehicle emissions, is an extraordinarily imprecise and clumsy instrument to achieve any particular level of emissions reduction, since it does not permit the targeting of environmental problem areas in a flexible and cost effective manner. Furthermore, because of the significance of gasoline to the U.S. economy, such a tax increase has associated with it a set of macroeconomic costs which have been estimated at $1 to $2 billion loss in GNP per penny increase in tax, and raises revenues in a highly regressive manner.

Increases in the Inland Waterway Barge Fuel Tax

There is a proposal before the Committee to increase the inland waterway barge fuel tax in order to reduce water pollution. Section 4042 of the Tax Code imposes a tax on certain fuel, used by a vessel in "commercial waterway transportation." Exemptions exist for noncargo vessels such as fishing boats and passenger vessels, deep-draft ocean-going vessels which generally do not make substantial use of the inland and intracoastal waterways, and LASH (Lighter-aboard-ship) barges. The tax applies to any use of a vessel on any of 27 inland or intracoastal waterways of the United States specified in section 206 of the Inland Waterway Revenue Act of 1978 (including the Mississippi River upstream from Baton Rouge, Louisiana; the Mississippi River tributaries; the Columbia-Snake Rivers Inland Waterways; and the Gulf and Atlantic Intracoastal Waterways). For 1990, the amount of tax is 11 cents per gallon of liquid used, and that amount is scheduled to increase 2 cents each year for the next four years. These tax collections are designated to an Inland Waterways Trust Fund under section 9506 of the Tax Code.

Section 4202 was enacted in 1978 in response to congressional concerns that commercial freight carriers using certain federally supported waterborne transportation facilities should pay a part of the costs of developing and maintaining the system in the future.[6] The tax was increased in 1987 to provide additional

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[3] U.S. Department of Energy, Security: A Report to the President of the United States, Washington, D.C., April 1987.

[4] French, Mark, "Economic Analysis of Gasoline Tax Increases," Wharton Econometric Forecasting Associates, May 22, 1987.

[5] Data Resources, "The Income Distributional Effects of an Increase in the Federal Tax on Gasoline," April 1989.

[6] See H.R. Rep. No. 545, Part II, 95th Cong., 1st Sess. 30, reprinted in 1978 U.S. Code Cong. & Admin. News 5483, 5484.

sharing of the costs of inland waterway navigational improvements by commercial users of the system. Furthermore, the committee emphasized "that this schedule of future fuel tax rate increases is not intended to be increased further."[7]

The tax increase proposal is based on the presumption that additional increases in the inland waterway barge fuel tax will reduce water pollution. On both environmental and energy conservation grounds, such an increase is ill-conceived. According to 1978 Department of Transportation figures on energy use in BTU's per ton-mile, domestic waterway transportation moves a ton of freight a mile at less expenditure of energy (479) than oil pipelines (525), railroads (649), or trucks (2,811).[8] By increasing the cost of energy efficient waterway transportation, an increase in the barge fuel tax could force businesses transporting via the specified water routes to turn to other means of transportation. Current and scheduled increases in the tax are already causing some shippers to shift to less energy efficient means. Not only would energy conservation be thwarted, but any environmental improvements to the water could well come at a cost to long-term broad based environmental concerns since air pollution could magnify due to increased emissions from growing rail and highway transportation systems.

Whether even marginal environmental improvement would occur through reduced use of the waterways because of a barge fuel tax increase has yet to be determined. Without up-to-date, in-depth environmental and energy studies to determine the efficiency of a tax increase in promoting improvement in water pollution, API opposes an arbitrary increase in the tax on inland waterway barge fuel for this purpose.

The Effect on the Environment of Existing Federal "Tax Subsidies" for Oil Production

Two so-called "tax subsidies" that promote the domestic production of oil are the Section 263(c) deduction for intangible drilling costs ("IDC"), and the Section 613 allowance for percentage depletion. The deduction for IDC is generally limited to costs incurred in drilling and developing domestic properties, and is reduced by 30% for integrated oil companies, i.e., major oil companies. The percentage depletion allowance on domestic oil production is available only to independent producers and not to major oil companies.

The favorable tax treatment for IDC and percentage depletion is reduced substantially by the alternative minimum tax ("AMT"). Excess IDC, i.e., the amount by which the current deduction for IDC is greater than the amortization amount for the year and is in excess of 65% of net income from oil and gas, is a tax preference item under the AMT. Percentage depletion in excess of a taxpayer's basis in a mineral property is also a tax preference item. In computing the adjusted current earnings ("ACE") adjustment for corporate AMT, IDC must be capitalized and amortized over sixty months beginning in the month the costs are incurred. Cost depletion must be used in computing ACE instead of percentage depletion.

The favorable tax treatment for IDC and percentage depletion, to the extent any exists after taking into account the AMT, has a minimal impact on the environment. The favorable tax treatment does not promote the consumption of petroleum products because it does not necessarily result in a lower price. To the extent

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7 Water Resources Development Act, H.R. Rep. No. 228, 99th Cong., 2nd Sess. 1, reprinted in 1987 U.S. Code Cong. & Admin. News 6705, 6718 and 6745.

8 See H.R. Rep. No. 545, Part II, 95th Cong. 1st Sess. 39, reprinted in 1978 U.S. Code Cong. & Admin. News 5483, 5489-90 (dissenting views of Rep. Pike).

domestic oil production would decline in the absence of the favorable tax treatment, the shortfall would be made up by increased imports of crude oil. This result would only worsen our steadily increasing dependence on foreign sources of oil.

While no industrial activity, including the production of oil, is without some environmental consequence, history suggests that most petroleum-related incidents resulting in significant environmental damage have involved transportation rather than production activities. Consequently, to the extent that declining domestic production is replaced by imported oil arriving by tanker, the risks of such accidents will rise. To the extent the favorable tax treatment for IDC and percentage depletion reduces the rate at which domestic properties are shut-in, U.S. energy security is enhanced and the environmental risk of transportation accidents is reduced.

The Section 29 Nonconventional Fuels Tax Credit

Under current law, the Section 29 nonconventional fuels tax credit is available for qualified fuels sold prior to January 1, 2001, and produced from wells which are drilled or facilities which are placed in service prior to January 1, 1991. "Qualified fuels" include oil produced from shale and tar sands; gas produced from geopressured brine, devonian shale, coal seams or a tight formation or biomass; synthetic fuels produced from coal; qualifying processed wood fuels and steam produced from agricultural byproducts. It has been proposed to extend the "wells drilled" and "placed in service" date beyond December 31, 1990. API supports such an extension.

Section 29 is a precisely-targeted, effective and efficient tax incentive. The tax credit is well-designed to encourage development of nonconventional fuels, by decreasing the cost of their production relative to the price of imported oil. As a result, U.S. dependence on imported energy is reduced and national energy security is enhanced. Consistent with the purpose of developing alternative energy sources, API also supports defining specific alternative fuels, such as tar sands, in a manner that sustains and encourages production for this type of fuel.

Section 29 is cost-efficient because the tax credit is earned only by those successful in developing and actually producing nonconventional fuels. Therefore, the tax credit compensates only those who undertake the high risk of developing and producing nonconventional fuels which involve special technologies to stimulate commercial production, higher operating costs, and long production lead times. Furthermore, the price based phase-out mechanism ensures that the credit serves to stimulate production only when the price of oil is below a targeted price level.

Availability of the tax credit has been effective in increasing activity in certain areas in the U.S. leading to new discoveries, for example in the Michigan and Appalachian Basins. This activity enhances local economies in these areas by generating work for drilling contractors and service companies, and jobs in support industries. Additionally, the tax credit for production of nonconventional natural gas--a clean-burning fuel--clearly promotes environmental improvement.

Enhanced Oil Recovery (EOR)

Providing targeted tax incentives to oil producers who utilize enhanced oil recovery (EOR) techniques is a positive, cost-effective and environmentally sound step in reducing the decline in U.S. oil production, thereby reducing U.S. dependence on imported oil and enhancing national energy security.

Normal recovery techniques extract only an estimated one-third of the oil in the ground. Much of the 65 to 70 percent of oil

remains in the ground because it is not economically feasible to extract this oil. Technology exists to extract far more oil; however, it is extremely expensive to utilize and requires considerable capital expenditures beyond what is economically viable in today's oil price environment.

Importantly, benefits from increased EOR production can be realized in an environmentally sound manner. Wells already are drilled, the site preparation is done, the necessary roads and infrastructure are in place, and the oil is there to be extracted.

The Department of Energy has estimated that tax incentives targeted to EOR techniques, for example 27-1/2% depletion allowance for oil produced by EOR and a 10% investment tax credit for costs incurred for an EOR project, would lead to production in the U.S. of an additional 7.7 billion barrels of oil. This is over 30% of the estimated 26 billion barrels of domestic oil reserves. This additional domestic oil production would result in the U.S. importing less oil at a time when almost one-half of the oil consumed in the U.S. is imported. Consequently, the U.S. trade deficit, of which imported oil is a major component, would be improved, and there would be a reduction in tanker traffic.

Tax incentives for EOR would be cost-effective since the tax benefits would be earned only by those successful in developing and actually producing oil utilizing EOR techniques. Therefore, EOR tax incentives would compensate only those who undertake the high-cost, high-risk effort of developing and producing incremental oil.

Other Means By Which the Tax System Can Be Used to Improve the Environment

It is clear that if technology can solve or mitigate an environmental problem, then large amounts of capital investment will be required to bring that technology on-line. Theoretically, new technology may make a manufacturing process more efficient and thus pay for itself over time. The more likely scenario, however, and one borne out by experience, is that "environmental" expenditures do not increase the efficiency of production or lower the direct cost of a unit of production. Quite the contrary, expenditures to meet new environmental standards often lower production and increase the price per unit. Furthermore, because the U.S. is in the forefront of environmental legislation, these environmental costs will undoubtedly be heavier on U.S. companies than on their foreign competitors. In addressing environmental goals, it is essential that Congress recognize the adverse effect environmental costs can have on American business and the potential loss of U.S. jobs and entire U.S. businesses if foreign competitors are not subject to the same costs. Consequently, Congress should give strong consideration to utilizing the tax laws to limit to some extent the anticompetitive impact of environmental legislation.

One method to use the tax code in a positive way would be to allow the immediate expensing for capital expenditures made in furtherance of a particular environmental standard. Such a provision would be a recognition that the expenditure has been made, not in the normal business pursuit of increasing production or lowering costs, but for the greater communal benefit and at the same time it would help defray the inevitable increase in product cost.

Tax-exempt financing rules could be eased to allow the owner or user of hazardous waste facilities and pollution control equipment to obtain such financing. The Congress may want to consider enacting a measure similar to repealed IRC Section 103(b) which allowed tax-exempt bond financing for pollution control equipment.

Finally, tax credits have often been used to encourage a

particular activity and could be used again in the environmental area. For example, an increased R & D credit could be fashioned to encourage research in the areas of: oil spill prevention and cleanup; hazardous waste reduction, treatment, recycling, transportation, and disposal or the development of alternative, more environmentally-benign products.

Mr. ANDREWS. Thank you, Mr. DiBona.
Mr. Snyder.

STATEMENT OF WILLIAM R. SNYDER, VICE PRESIDENT-ADMINISTRATION AND SECRETARY, CROWN CENTRAL PETROLEUM CORP., BALTIMORE, MD, ON BEHALF OF THE INDEPENDENT REFINERS COALITION AND THE AMERICAN INDEPENDENT REFINERS ASSOCIATION

Mr. SNYDER. Mr. Chairman, and members of the committee, my name is William R. Snyder. I am vice president of administration, and corporate secretary, of Crown Central Petroleum Corp. I am appearing today on behalf of the Independent Refiners Coalition and the American Independent Refiners Association. The 26 refiners that I represent account for more than 30 percent of the Nation's independent refining capacity.

Independent refiners, Mr. Chairman, play an important role in assuring that this country has a strong refining industry. They also play an important role in maintaining a competitive marketplace. They are the principal suppliers of independent marketers. The U.S. refining industry faces a serious threat from foreign refiners who enjoy lower environmental costs and other operating advantages.

During the 1980's, gasoline imports increased dramatically from less than 1 percent to more than 6 percent of U.S. domestic demand. In addition, more than 3 million barrels of refining capacity was closed during that period. Today, the industry's capabilities are only marginally able to meet domestic requirements during peak periods. Many foreign refineries are state-owned, and pay no taxes. Foreign refiners in oil producing countries have crude oil supply stability, and crude oil cost advantages over U.S. refiners. In addition, foreign refiners are not subject to the increasingly stringent environmental costs and regulatory burdens faced by U.S. refiners. Policymakers must therefore realize that tighter U.S. requirements create a competitive advantage for foreign refiners.

For example, in the United States, the only country which has substantially reduced lead in gasoline, now it is down to one-tenth of a gram per gallon. European countries permit 5 times to 16 times as much lead in gasoline; Mideastern and Latin American countries permit lead levels more than 30 times the levels that are permitted in the United States. This allows foreign refiners to supply their home markets with leaded products, while using unleaded octane capacity for the U.S. market.

United States mandated reductions in fuel volatility give foreign refiners another competitive advantage. If a foreign refiner exports 10 percent of its gasoline production, the refiner can meet the U.S. standard by making only 1 percent overall reduction in volatility at a cost of only 2 cents per barrel. A 10-percent reduction in volatility costs U.S. refiners about 20 cents per barrel, or 10 times as much.

Another example, of removing sulfur from distillates, creates a similar competitive problem. New sulfur standards will cost U.S. refiners from $3,300 million to $6,600 million in capital investments. Many foreign refiners will be able to segregate lower sulfur

distillate cargos for the U.S. market, thus avoiding the heavy capital burden placed on the domestic industry.

Previous studies by the American Petroleum Institute and the Congressional Budget Office indicate that U.S. refiners operate on an overall cost disadvantage ranging from 30 to 40 cents per barrel. Our own figures are much higher than this. And, of course, there are new standards coming in and new expected in the future. Our most recent estimate of the annual cost of environmental compliance for the domestic refining industry, as a whole, ranges from $18,900 million to $22,200 million per year.

We are concerned today that the U.S. Trade Representative has included petroleum and petroleum products among the tariffs for possible reduction or elimination in the Uruguay round of negotiations under GATT. We are particularly troubled that the U.S. Trade Representative may offer to reduce or eliminate petroleum product tariffs only, while leaving crude oil tariffs out of the negotiations.

Petroleum product tariffs are 42 to 47.5 cents per barrel higher than the tariffs on crude oil, which partially offsets the competitive disadvantage placed on domestic refiners by the increasingly stringent environmental and regulatory requirements. Removal of the product tariffs would allow gasoline and other finished products to enter at a lower duty than crude oil feed stocks used to produce the products. There is no justification for removing, through negotiations, product tariffs, while withholding crude oil tariffs from the negotiations.

Petroleum product imports pose a greater threat to national security than crude oil, because imported products involve dependency on foreign refining capacity, as well as foreign crude oil production. As U.S. refining capacity is displaced by imports, the Nation becomes more vulnerable to supply interruptions unless able to use products from alternative crude supplies, such as the strategic petroleum reserve.

Increasing petroleum product imports are particularly threatening to independent refiners. Independent refiners have limited financial resources. They do not have offsetting profits from crude oil sales, and they are especially vulnerable to depressed profit margins, or the loss of market share caused by increased product imports.

Removal of the product tariffs would accelerate the shift of new refining capacity to foreign sites where environmental regulations are far less stringent than in the United States. This would result in a step backward in the global pollution area, and would mean the loss of well-paid manufacturing jobs in this country, and the loss of tariff revenues to the Treasury.

The Department of Energy opposes the inclusion of either crude oil or petroleum products in the GATT negotiations. DOE's position is based on the unique status of crude oil and refined petroleum products with respect to the Nation's energy security. We believe the recommendation of DOE is well-founded, and should be followed by the U.S. Trade Representative in formulating the negotiating position.

In summary, the Independent Refineries Coalition believes it would be unwise public policy for the Federal Government to en-

courage further increases in petroleum imports by reducing or eliminating existing petroleum product tariffs. Thank you.

[The statement of Mr. Snyder follows:]

STATEMENT OF WILLIAM R. SNYDER

on behalf of the

INDEPENDENT REFINERS COALITION

and the

AMERICAN INDEPENDENT REFINERS ASSOCIATION

before the

COMMITTEE ON WAYS AND MEANS
U. S. HOUSE OF REPRESENTATIVES

LONG-TERM STRATEGY HEARING
ON THE ENVIRONMENT

March 6, 1990

Mr. Chairman and Members of the Committee:

My name is William R. Snyder. I am Vice President--Administration and Secretary of Crown Central Petroleum Corporation. I am appearing today on behalf of the Independent Refiners Coalition and the American Independent Refiners Association, which together include 26 independent petroleum refiners. Collectively, the companies I represent account for more than 30 percent of the nation's independent refining capacity.

Independent refiners play an important role in assuring that this country has a strong refining industry to provide the fuels needed to keep our homes heated, our transportation systems moving, our manufacturing plants operating, and our military planes, ships, and other vehicles in action. Independent refiners are also an important competitive factor as the principal suppliers of independent marketers and as an alternative to the major integrated oil companies.

The U. S. refining industry faces a serious threat from foreign refiners with lower environmental costs and other operating advantages. During the decade of the 1980's, imports of gasoline--which is the principal product of the U. S. industry--increased dramatically from less than one percent to more than six percent of U. S. demand. During this same period, more than three million barrels per day of domestic refining capacity was closed, leaving the industry only marginally adequate to meet domestic requirements.

Many foreign refiners are state-owned and pay no taxes, while our refiners are private tax-paying businesses. Foreign refiners in oil-producing countries also have crude oil supply stability and crude oil cost advantages over U. S. refiners, particularly independents. In addition, foreign refiners are not subject to the increasingly stringent environmental costs and regulatory burdens which face U. S. refiners.

Our members commend the U. S. Government for its leading role in protecting the environment, and they are working hard to comply with increasingly strict and costly requirements. It is important, however, for policy makers to realize that tighter U. S. requirements create a competitive advantage for foreign refiners which operate under lower environmental standards.

Let me cite a few specific examples, starting with the phasedown of lead in gasoline. The United States is the only country which has reduced lead levels significantly--down to 1/10 gram per gallon. European countries still permit five times to 16 times as much lead in gasoline, and countries in the Middle East and Latin America permit lead levels more than 30 times

higher than the U. S. standard. This allows foreign refiners to supply their home markets with leaded products while using unleaded octane capacity to penetrate the U. S. market.

Mandated reductions in the volatility of fuel used in the United States give foreign refiners another competitive advantage. For example, a 10-percent reduction in volatility costs U. S. refiners about 20 cents per barrel. If a foreign refiner exports 10 percent of its gasoline production to the United States, the refiner can meet the U. S. standard by making only a one-percent overall reduction in volatility at a cost of only two cents per barrel.

The cost of removing sulfur from distillates creates a similar competitive problem. New sulfur standards will cost the U. S. refining industry from $3.3 billion to $6.6 billion in capital investments. Many foreign refiners will be able to segregate lower sulfur distillate cargoes for the U. S. market, thus avoiding the heavy capital burden imposed on the domestic industry.

These are only examples. Previous studies by the American Petroleum Institute and the Congressional Budget Office indicate that U. S. refiners operate under an overall cost disadvantage ranging from 30 cents per barrel to 44 cents per barrel. Since these estimates were made, additional environmental costs have been imposed and further costs are expected from amendments to the Clean Air Act. Our most recent estimate of the annual costs of environmental compliance for the domestic refining industry as a whole ranges from $18.9 billion to $22.2 billion.

Against this background, we are concerned that the U. S. Trade Representative ("USTR") has included the U. S. tariffs on petroleum and petroleum products among the tariffs identified for possible reduction or elimination in the Uruguay Round of negotiations under the General Agreement on Tariffs and Trade. We are particularly troubled by recent information that the USTR intends to offer the tariffs on petroleum products for reduction or elimination while excluding the tariffs on crude oil from the negotiations.

The current petroleum product tariffs are 42 cents to 47.5 cents per barrel higher than the tariffs on crude oil, which partially offsets the competitive disadvantage imposed on domestic refiners by increasingly stringent U. S. environmental and regulatory requirements. Removal of the product tariffs alone would reverse the differential and would allow finished products to enter at a lower duty than crude oil feedstocks used to produce the products.

There is no justification for removing product tariffs while withholding crude oil tariffs from the negotiations. The outstanding Presidential orders against imports of crude oil and petroleum products are both aimed at protecting national security. Although the 1985 executive order barring product imports from Libya was issued under anti-terrorist legislation, its stated purpose is to prevent circumvention of earlier proclamations under the national security clause barring imports of Libyan crude oil.

As a practical matter, petroleum product imports pose a greater national security threat than crude oil imports because imported products involve dependency on foreign refining capacity as well as foreign crude oil production. To the extent U. S. refining capacity is displaced by product imports, the nation becomes more vulnerable to supply interruption and less able to make usable products from alternative crude oil supplies, such as the Strategic Petroleum Reserve.

Increasing petroleum product imports are particularly threatening to independent refiners, which account for about 30 percent of U. S. operating capacity. Compared with the major

integrated oil companies, independent refiners have limited financial resources, do not have offsetting earnings from crude oil sales, and are especially vulnerable to depressed profit margins or loss of market share caused by increasing product imports.

Removal of the tariffs on petroleum products would exacerbate the shift of new refining capacity to foreign sites where environmental regulations are far less stringent than in the United States. Since foreign plants are beyond U. S. environmental regulations, the results would be a step backward in addressing global pollution. Exportation of refining capacity would also result in the loss of well-paid manufacturing jobs in the United States and the loss of tariff revenues to the Treasury.

Elimination of petroleum product tariffs would also signal that our domestic market will be open to further increases in import levels. Foreign state-owned refineries--especially those owned by oil-producing countries--would have increased flexibility to price their exported products low enough to assure penetration of the U. S. market.

The Department of Energy ("DOE") has lodged an objection with the USTR opposing inclusion of either crude oil or petroleum products in the GATT negotiations. The opposition of DOE is based on current conditions in the world and domestic oil markets and on the "unique status" of crude oil and refined petroleum products in relation to the nation's energy security. We believe the recommendation of DOE is well-founded and should be followed by the USTR in formulating the U. S. negotiating position.

INDEPENDENT REFINERS COALITION

Ashland Oil, Inc.
Clark Oil & Refining Corporation
Crown Central Petroleum Corporation
Diamond Shamrock Refining & Marketing Company
Fina Oil & Chemical
National Cooperative Refinery Association
Tesoro Petroleum Corporation
Tosco Corporation
Valero Refining Company
American Independent Refiners Asociation
    Berry Petroleum Company
    Calcasieu Refining Company
    Chemoil Corporation
    Edgington Oil Company, Inc.
    Fletcher Oil and Refining Company
    Frontier Oil and Refining Company
    Golden West Refining Company
    Huntway Refining Company
    Laketon Refining Corporation
    National Cooperative Refinery Association
    Newhall Refining Company, Inc.
    Oxnard Refinery
    Paramount Petroleum Corporation
    San Joaquin Refining Company, Inc.
    Southland Oil Company
    U. S. Oil & Refining Company
    Witco Golden Bear Division

Mr. ANDREWS. Thank you very much.

Mr. Gifford, I wonder if you would give us your thoughts on what the effect of other alternative fuel incentives have had in other nations, Canada for instance? What has seemed to work more than any other single thing to encourage alternative fuel use?

Mr. GIFFORD. I think I would like to begin to answer that question by comparing the strategy of Congress in the United States versus what I view as the strategy in Canada. The strategy in Congress here has been to address environmental issues. Whereas, the strategy in Canada, has been to deal with their energy security, to become less dependent on external energy sources. So I would say that they would be advancing the support of natural gas-powered vehicles by subsidies. Whereas in our country, what we are looking for is a movement into supporting a program that will produce a fuel, or enable a fuel, that is clean-burning to become a part of the vehicle consumption.

Even though the tax credit has a limited duration, it can help us build the market infrastructure that is needed. Infrastructure is where the encouragement will be needed to move into this market, and once the infrastructure is there, then it will be self-sustaining.

Mr. ANDREWS. How would the credit, if implemented, contribute to the mobile source provisions of the clean air bill?

Mr. GIFFORD. I think that what it does is that it enables us to move from a fuel that has not been as environmentally clean as natural gas, and the credit helps us set up the market, if you will, by in the early phases of it subsidizing, through tax credits, the movement into this market, and as that market becomes a larger market, and the manufacturers prepare a car that is equipped to burn natural gas, then the costs are lowered, and the payback is more attractive, and more people would be able to have natural gas-powered vehicles.

Mr. ANDREWS. Mr. DiBona, do you favor tax incentives to convert to alternative fuels?

Mr. DIBONA. Well, our view is that whatever is done in the alternative fuel area ought to enhance the efficiency of achieving environmental goals. Therefore, we have all along taken the view that that means, and should mean, a level playing field for all alternative fuels, whether they be methanol, whether they be natural gas, or whether they be reformulated gasoline.

Mr. ANDREWS. I appreciate that. The tax credit that we are discussing, though, does not designate a particular fuel. It is simply a 20-percent credit for any conversion to an alternative fuel, whatever the marketplace might dictate. Is that the kind of legislation that you would support?

Mr. DIBONA. We would not support legislation that singled out a particular form of fuel, or the accoutrements which is effectively a subsidy for one fuel in preference to other fuels.

Mr. ANDREWS. Well, that is exactly what I just asked you. I said, the credit would not single out a particular fuel. It would be available for any conversion to any fuel, and the marketplace would primarily drive what type of energy source was used.

Mr. DIBONA. Well, it is my understanding of the legislation that this would not apply, for example, to gasoline station tanks, but it would apply to compressor equipment at a natural gas facility.

Mr. ANDREWS. Mr. Gifford, do you want to respond to that?

Mr. DIBONA. Is that correct or not?

Mr. GIFFORD. The only thing—I can respond that it is my understanding that it would apply correctly to the compressor facilities at a natural gas fueling station.

Mr. ANDREWS. I guess the question, Mr. DiBona, that——

Mr. DIBONA. Maybe I misunderstand this, but it is my understanding that this would be equipment designed to either modify a conventional motor fuel vehicle to be propelled by certain clean-burning fuels, or the refueling equipment, and it would be a subsidy, essentially, to those things, and so that would, I don't think, be consistent with the notion of a level playing field among all fuels, and that is our posture.

Mr. ANDREWS. Mr. DiBona, let me just ask you to just express your views for a moment, first, on the importance of section 29, and some revisions that API has suggested need to be made, and others that need to be made. How important is section 29 in your sense of priorities in the code for the energy industry?

Mr. DIBONA. Well, there are a number of potential things that could be done to continue oil production in the United States. Section 29 is certainly one of the important ones on that list.

Mr. ANDREWS. And why is it important?

Mr. DIBONA. Because what it would do would be to ensure continued production and new production of some fuels that would otherwise be imported.

Mr. ANDREWS. One part of this debate proposes a sulfur dioxide and nitrogen oxide emissions tax as an alternative to the acid rain titles in the House and Senate clean air bills. I wonder if you would just care to comment on that?

Mr. DIBONA. A nitrogen oxide tax and a——

Mr. ANDREWS. A sulfur dioxide and a nitrogen oxide emissions tax, as an alternative to the acid rain titles in the bill.

Mr. DIBONA. I'd like to supply that for the record, if I could.

Mr. ANDREWS. OK, that would be fine.

[The following was subsequently received:]

The following information is in response to Congressman Andrew's question regarding the preference of the petroleum industry to (*a*) an emission tax on all release of SO_x and NO_x including industrial processes; or (*b*) the current provisions of H.R. 3030 that provide for EPA discretion in establishing industrial process emission control requirements to reduce acid rain:

API favors the provisions in H.R. 3030, but stresses that emission controls should be established based on the most cost-effective means of control with emphasis on large significant sources with capacities above 350 mmBTU.

H.R. 3030 allows EPA to establish emission control requirements for process sources as deemed necessary. API believes that control requirements based on the cost-effectiveness of emission reductions would limit requirements on petroleum facilities because of the high cost per ton of emissions reduced compared to electric utilities. For example, the incremental cost of SO_2 controls for electric utilities has been estimated at $100 to $400 per ton for non-scrubbing alternatives, and $1,000 to $2,000 per ton for scrubbing. This compares to the high cost for the petroleum industry of $2,000 to $5,000 per ton.

Mr. ANDREWS. Mr. Snyder, are you for an oil import fee?

Mr. SNYDER. Am I for an oil import fee? I am for the current fee structure which is in place to remain in place. If there is any change in that, then I would think that the proper focus should be on the product import side of the equation.

Mr. ANDREWS. The gentleman from Arkansas, Mr. Anthony.

Mr. ANTHONY. Thank you, Mr. Chairman.

Mr. DiBona, following up on your comment, if I heard you correctly, that your association is opposed to any subsidies for any fuels?

Mr. DIBONA. No, the question was, in order to achieve environmental benefits in alternative fuels, this has been the subject of some discussion because of the administration's original interest in methanol, and because the original methanol provisions would have required the use of methanol. We have looked at that, and have taken the position that there should be a level playing field, not only with regard to whether or not there are subsidies, that is, if there are subsidies, they ought to apply to all fuels. We are not advocating that there be subsidies, simply saying that if there are, they should apply to all fuels, and there should not be regulations which eliminate some particular fuels, but rather a goal should be set, and all fuels should be permitted to try and achieve that goal—an environmental goal should be set—so that is essentially what our posture has been on that matter.

Mr. ANTHONY. Trying to get to a more specific area, sections 4041(k)(1), and 4081(c), 4091(c), 4041(b)(2)—they all talk about subsidies for encouraging the production of alternative fuels, gasohol, et cetera, those are due to expire. Have you taken a position on those? Does that fall in that classification where you don't think it is a level playing field?

Mr. DIBONA. Yes, we would be concerned about level playing field, I think, with all of those. I would have to go through that list carefully.

Mr. ANTHONY. Would you go through those lists?

Mr. DIBONA. I certainly will, and supply that for the record.

[The following was subsequently received:]

The following information is provided in response to Congressman Anthony's question regarding API's position on current law tax incentives for alcohol fuels:

Under the Internal Revenue Code, several excise taxes are imposed to finance the Highway Trust Fund. A tax generally of 9 cents/gallon is imposed on gasoline and 15 cents/gallon on diesel fuel when either is used in a highway vehicle.

Certain partial exemptions from the tax are allowed for alcohol-blend fuels and for methanol and ethanol fuels. A fuel which consists of 10 percent or more ethanol or methanol (which is not produced from petroleum, natural gas or coal) blended with gasoline is provided a 6 cents/gallon exemption. Diesohol is also provided a 6 cents/gallon exemption.

An income tax credit is allowed through December 31, 1992, for certain alcohol used as fuel. Taxpayers may claim a credit of 60 cents/gallon if the alcohol is at least 190 proof and 45 cents/gallon if the alcohol is at least 150 proof but less than 190 proof for each gallon of alcohol used either in the production of an alcohol-fuel mixture or alone as a fuel and used by the taxpayer as a fuel in a trade or business or sold for fuel at retail. The income tax credit is provided as an alternative to the gasohol and diesohol excise tax exemptions and is reduced or eliminated to take into account any benefit claimed through those exemptions. On March 6, 1990 the Internal Revenue Service issued final regulations extending the credit to include ethanol used in the production of ethyl tertiary butyl ether (ETBE).

In general, API opposes mandates or subsidies of particular fuels. Our policy emphasizes the need to maintain a choice of fuels for consumers. API believes that competitive markets should be relied upon to direct fuels to their highest valued uses.

If, at some time, it is deemed to be in the nation's interest to temporarily assist the production of alternative fuels, comparable incentives should be provided for all fuels which reduce air pollution or reliance on imported energy. Absent compelling national policy reasons, government programs should avoid subsidizing any particular fuel.

API has not opposed the current law excise tax exemption and income tax credit for gasohol and diesohol, but would oppose further ethanol tax incentives and, specifically, opposes the extension of the income tax credit to ETBE.

RECORD OF HEARING FOR MR. DIBONA
OF THE AMERICAN PETROLEUM INSTITUTE
WAYS AND MEANS HEARINGS ON MARCH 6, 1990.

Mr. ANTHONY. And supply that for the record? I have just one final question.

Mr. Huard, you have said that the current alternative minimum tax imposes a penalty on current capital investment to gain environmental goals. I quickly ran through your testimony, but I couldn't find any examples of that, and I just wonder if you could briefly tell me how that operates, and then if you could supply us with an example?

Mr. HUARD. It has that effect. One of the things that throws you into the alternative minimum tax is large capital outlays for plant, equipment, and machinery. If you have a business that happens to make large capital outlays, and they happen to be for environmental reasons, it will throw that company into the minimum tax. It will also throw them in if the expenditures were for production equipment, so I wasn't suggesting that environmental equipment is singled out and treated worse, I am just saying that whenever you make large capital expenditures, you have a tendency, all other factors being equal, to be thrown into the alternative minimum tax, and we think that, in the case, at least, where the expenditures are for environmental reasons, that is sort of a perverse result that ought to be changed.

But I wasn't suggesting that environmental expenditures, or capital outlays for environmental expenditures, are treated worse than other capital expenditures. For purposes of the AMT, they are all treated the same.

Mr. ANTHONY. What you are saying for purposes of this hearing, though, is that if you are going to use the Tax Code to try to induce positive environmental actions, that is one we ought to take a look at?

Mr. HUARD. That is correct. That is one type of expenditure that you might consider taking out of the AMT, as a way to promote environmental quality.

Mr. ANTHONY. Thank you, I yield back.

Mr. ANDREWS. Thank you.

Mr. Cavaney, I did not hear your testimony this morning, but I gather that you were opposed to many of the tax measures that are discussed in the committee's press release. Do you support any of the bills which have been introduced to regulate environmental problems, such as the Clean Air Act, or do you simply think that the Federal Government ought to stay out of this process?

Mr. CAVANEY. No, we support a number of the provisions of the Clean Air Act, as it has evolved here in the house, and also as well as the coalition group effort that was worked out on a bipartisan basis over in the Senate.

Mr. ANDREWS. Tell me what those are, if you could, just quickly enumerate for me what provisions you do support.

Mr. CAVANEY. I don't know all the great details of that. What I'd

like to do, Mr. Andrews, is go ahead and provide that for the record, if I could, immediately following the hearing here today.

[The following was subsequently received:]

In response to your question, Mr. Andrews, our industry supports a comprehensive approach to the clean air debate and we support the principles and general approach to implementation outlined by President Bush in June 1989. I would like to enclose, at this point, a copy of the letter I sent President Bush on behalf of the paper industry at that time.

Our industry remains committed to a rational approach to the clean air issue consistent with that outlined and supported by the President.

American Paper Institute, Inc.
260 Madison Avenue, New York, N.Y. 10016 (212) 340-0676
Cable address: AMPAPINST New York

Office of the President

July 19, 1989

The President
The White House
Washington, DC 20500

Dear Mr. President:

Following up on our initial favorable impression of your Clean Air Act proposals as outlined in our letter to you of June 22, it is with great pleasure that I formally convey the U.S. pulp and paper industry's endorsement of your proposal to amend the Act. At a meeting of its Executive Committee, the American Paper Institute voted unanimously to support the "principles and general approach to implementation" which you outlined in your June 12 announcement.

The American pulp and paper industry stands ready to be part of the Administration's efforts to gain Congressional approval of this bold effort. As one of America's ten largest manufacturing industries, we have an important stake in not only the broad principles you have provided, but also in the specifics of the legislative package you submit to the Congress. As such, API has continued to work with your Administration and Congress on matters for which we have special expertise and interest. We are hopeful that these efforts, coupled with any other assistance we can provide to your Administration on this matter, will prove to be productive in breaking the long-term Congressional stalemate on amendments to the Clear Air Act.

We trust that, under your continued strong personal leadership, an improved Clean Air Act will add to the quality of life for all Americans while providing lowest-cost options for a competitive American industry.

To insure that the rational approach you have brought to this debate prevails in the months to come as specific proposals emerge, we look forward to working with you and your Administration on this important effort.

Sincerely yours,

Red Cavaney
President

Serving the pulp, paper and paperboard industry

Mr. CAVANEY. One of our concerns, though, and some of our opposition to some of the tax things that have been proposed, is that we are just trying to educate people, at least in terms of our own industry, about what the desired effect is. For example, there is a proposal on a virgin materials tax, and presumably, that is supplied in the case of paper, to try and change behavior, increase demand for recycled products, to try and relieve some of the burden on landfills.

But in truth of fact, the industry has already committed and has billions of dollars of capacity expansions already announced, and the issue there is not one of demand. The issue is one of the waste paper supply, ultimately, and we think that that's where the Government can help speed this process along, so it isn't an opposition to taxes, per se, it is in opposition to an approach that we don't think gets at the stated desired impact that is trying to be worked toward.

Mr. ANDREWS. Well, thank you very much, and I want to thank all of you on the panel. It has been a good panel. We appreciate hearing your testimony.

Our next panel consists of representatives of the American Public Power Association: David Freeman, from Austin, TX; the Edison Electric Institute, represented by Edward Mitchell; Clean Air Working Group, represented by William Fay; and the Chemical Manufacturers Association, represented by Sean Crimmins.

Mr. Mitchell, if we could proceed with you, and then work across the witness table, please.

STATEMENT OF EDWARD F. MITCHELL, PRESIDENT AND CHIEF EXECUTIVE OFFICER, POTOMAC ELECTRIC POWER CO., ON BEHALF OF THE EDISON ELECTRIC INSTITUTE

Mr. MITCHELL. Yes, sir, Mr. Chairman. Good afternoon. Thank you very much for the opportunity to talk to you on a rather pressing subject for us. I am Edward F. Mitchell, president and chief executive officer of the Potomac Electric Power Co. I appreciate the opportunity to be with you today, and representing EEI, however, not just my company.

The Edison Electric Institute believes that our Nation's tax policies really should be consistent with the national energy and environmental policies. Therefore, if Congress mandates changes to the Clean Air Act, then our industry needs a comprehensive, well thought out policy, that includes the positive use of the Tax Code.

We strongly believe that tax policy related to the environment needs to recognize three key elements. No. 1, an emissions tax, is environmentally counter-productive, and should not be considered. No. 2, the capital formation incentives are a key element in mitigating the cost to our customers of clean air legislation, and No. 3, clarification needs to be made—it is rather vital—that energy conservation incentives for our customers are excludable from their taxable income.

First, on the energy emissions tax. The Edison Electric Institute strongly opposes this type of tax. We believe that they have serious policy defects from the perspective of fairness and equity. The

clean air dilemma surely was not created in a day, and is not going to be solved in a day, and it is not going to be solved with a tax.

An emissions tax is, to some extent, regressive, and certainly affects different regions of the country disproportionately, for sure. An emissions tax also constitutes a somewhat unfair penalty. The utility industry essentially complies with all present applicable air pollution control standards. In fact, the industry has already installed more than 150 flue gas desulfurization systems, better known as scrubbers, and I understand that there are probably 30 or so that are in the pipeline for completion during the 1990's.

As you know, since 1973, our industry has reduced the annual sulfur dioxide emissions by some 21 percent, approximately 4 million tons, and these reductions were achieved during the same time that the coal usage rose by about 85 percent.

The utilities are also using and continuing to develop clean coal technologies as a more environmentally sound way of burning coal.

According to a McGraw-Hill survey in 1988, the electric utility industry has spent over $20 billion between 1973 and 1986 on air pollution control equipment and power plants. Our industry continues to spend billions annually to operate the pollution control equipment and to build additional equipment. Preliminary estimates for EEI of the recently announced Senate clean air compromise indicate that if the compromise becomes law, our industry will spend over $40 billion between now and the year 2005 to build and operate additional pollution control equipment. This will be a significant burden for the customers of the electric utility industry. An emissions tax would only further increase these costs in addition to the expense of future efforts to reduce emissions.

Nationally, emission taxes will increase the price of electricity, which will in turn increase the cost of consumer products, and in turn that will cause at least some trend to place our Nation in a somewhat less competitive position in the world market.

As EEI testified before this committee on September 9, 1987, in respect to a proposed emissions tax, there would have been a 10-percent increase in the cost of electricity nationwide if the tax would have been enacted. An emissions tax disproportionately penalizes low- and fixed-income residential customers. We believe that because of its somewhat regressive nature, that it is clearly inconsistent with an equitable tax policy, and that the tax is unwarranted.

If we look at the capital formation tax incentives, that becomes a rather key item for our industry and for the customers of our industry. We are extremely capital-intensive, and we are keenly aware of the important role that capital formation incentives have played in keeping the cost of electricity affordable for our customers and in keeping our Nation competitive.

The Tax Reform Act of 1986, however, for the most part, either repealed or limited capital formation incentives for the future. Consequently, the currently limited ability of these incentives will do little to help mitigate the cost of clean air equipment and the resulting increases in electric rates to our customers for the future.

EEI recently calculated the results of two capital formation incentives which could be made available—and we suggest are suitable for consideration by this committee—to help mitigate the sub-

stantial capital cost of meeting the proposed clean air standards. Our analysis focused on the impact that each of these tax incentives could have on electric rates over the life of the facility. From this study, we reached several general conclusions.

One, shortening the tax life from the present 20 years to 5 years could help reduce the cost to our customers by something on the order of 14 percent over the facility's life. Another item would be the implementation of a 20-percent tax credit which could further reduce customers' costs incrementally by about 8 percent. So with the imposition of both of these, for example, that would come to about 22 percent. These are only examples, and I'm sure there are others.

The comparison of these cost recovery alternatives demonstrate that the Federal tax system through capital formation incentives could significantly mitigate the impact of potential clean air legislation.

My final point relates to the taxability of energy conservation payments to our customers. Recently, the Internal Revenue Service, in a technical advice memorandum, has brought into question the taxability of such payments. We strongly believe the tax laws should clarify existing law by providing a specific income exclusion for incentives provided to all utility customers for the purchase and installation of energy conservation measures. In this regard, it is my understanding that Representative Kennelly will be introducing legislation to accomplish this objective. We commend her for this initiative and her leadership on the issue, and we strongly support the concept of this legislation.

In conclusion, Mr. Chairman, EEI strongly believes that the solution to the Nation's environmental concerns does not lie in a punitive and unwarranted emissions tax. If it is the will of our Nation to require stricter emission standards for electric power plants, then consideration should be given to the leadership role that this committee and the Tax Code might play in achieving that goal.

Finally, we believe that our Nation's tax policy should be consistent with and encourage energy conservation. On behalf of EEI, Mr. Chairman, we thank you very much for the opportunity to talk with you about these several items.

[The statement of Mr. Mitchell follows:]

STATEMENT OF

EDWARD F. MITCHELL
PRESIDENT AND CHIEF EXECUTIVE OFFICER
OF
POTOMAC ELECTRIC POWER COMPANY

ON BEHALF OF
THE EDISON ELECTRIC INSTITUTE

BEFORE THE
COMMITTEE ON WAYS AND MEANS
U.S HOUSE OF REPRESENTATIVES

MARCH 6, 1990

Mr. Chairman and Members of the Committee:

I am Edward F. Mitchell, President and Chief Executive Officer of Potomac Electric Power Company (PEPCO). PEPCO is an investor-owned electric utility which serves 1.8 million people in the metropolitan Washington, D.C., area including major portions of Montgomery and Prince George's counties in Maryland. I appreciate the opportunity to appear before you today representing the Edison Electric Institute (EEI) to present our views on tax policy related to the environment.

EEI is the association of electric companies. Its members serve 96 percent of all customers served by the investor-owned segment of the industry. They generate approximately 78 percent of all electricity in the country and provide electric service to 74 percent of the nation's electric customers.

EEI believes that our nation's tax policies should be consistent with our national energy and environmental policies. My testimony will focus on three key areas of tax policy related to the environment: an emissions tax, clean air capital formation incentives, and energy conservation incentives. EEI strongly believes that:

- An emissions tax is environmentally counterproductive and unwarranted.
- Capital formation incentives are a key element in mitigating the cost to our customers of clean air legislation.
- The law should clearly state that energy conservation incentives for our customers are excludable from their taxable income.

Emissions Tax

The Edison Electric Institute strongly opposes any type of environmental or emissions tax. Such taxes have serious policy defects from the perspective of fairness and equity. The clean air dilemma was not created in a day and it will not be resolved next year with a tax. An emissions tax is regressive and affects different regions of the country disproportionately.

An emissions tax also constitutes an unfair penalty. The electric utility industry complies with current applicable air pollution control standards. In fact, the industry has already installed more than 150 flue gas desulfurization systems, better known as "scrubbers." Additional scrubbers are in the design and construction stage and will be completed during the 1990s. Since 1973, our industry has reduced annual sulfur dioxide emissions by 21 percent, approximately 4 million tons. These reductions were achieved during the same time that coal usage rose by about 85 percent. Utilities are also using and continuing to develop clean coal technologies as a more environmentally sound way of burning coal.

The customers of the electric utility industry spend billions annually for air pollution control at power plants. With taxes already comprising 14 percent of the cost of electricity on a national basis, an emissions tax would only further increase these costs in addition to the expense of future efforts to reduce emissions.

An emissions tax would fall most heavily on those electric utilities that are potentially liable for future emission reductions. In many cases, these future emission reductions may be achieved with the installation of expensive scrubbers, which, when combined with an emissions tax, compounds the cost burden on customers of these utilities. An emissions tax would also adversely affect companies that already have spent large amounts for air pollution controls in compliance with current law.

Under current technology, emission reductions may be achieved with the installation of expensive scrubbers or by substituting low-sulfur coal for high-sulfur coal. It takes a great deal of time to design, obtain regulatory approval and build pollution control equipment. The imposition of an emissions tax will divert funds that are needed to finance this effort. It also places the utility companies and its customers in the position of having to pay both a tax and the cleanup costs simultaneously.

An emissions tax has also been proposed as a means of raising revenue. While this may be attractive from a revenue standpoint, it would be short-sighted. An emissions tax will increase the price of electricity which, in turn, will increase the cost of consumer products nationally. This will place our nation at a competitive disadvantage in world markets, resulting in a negative impact on economic growth. An emissions tax, by increasing the price of electricity, will also serve to increase the consumer price index and other inflation indicators leading to inflationary increases in payments linked to these indices.

As EEI testified before this Committee on September 9, 1987 with respect to pending legislation on a proposed emissions tax, there would have been a 10 percent increase in the cost of electricity nationwide had such legislation become law. An emissions tax of this magnitude is regressive, and will disproportionately penalize low and fixed income residential customers. EEI believes the regressive nature of an emissions tax is clearly inconsistent with equitable tax policy and such a tax is unwarranted.

Clean Air Capital Formation Tax Incentives

As one of the most capital intensive industries in the nation, we are keenly aware of the important role that capital formation incentives have played in keeping the cost of electricity affordable for our customers and in keeping our nation competitive. Our industry, because of its capital intensive nature, is required to invest more than $3 of capital for each $1 of annual revenue. This compares to manufacturing industries which invest approximately $1 of capital for each $1 of annual revenue.

In the past, capital formation incentives have helped mitigate the cost of pollution control equipment installed to reduce emissions from power plants. It is important to review past capital formation incentives in order to contrast them with those which are available under current law to help meet the increased costs resulting from clean air legislation. These past capital formation incentives can generally be summarized into three categories.

- o Sixty Month Amortization
- o Tax-Exempt Financing
- o Investment Tax Credits and Other Incentives

I will discuss each of these more fully below.

Sixty Month Amortization

Pollution control facilities installed at power plants placed in service prior to 1976 qualify for the sixty month amortization. Through various basis reductions, only 60 percent of the cost of qualifying pollution control facilities is eligible for sixty month amortization; the balance must be depreciated over a 20 year tax depreciation life. The sixty month amortization was especially important for pollution control facilities added to older power plants which were nearing the end of their economic lives.

In addition to the in-service date restriction, the definition of what qualifies for sixty month amortization is overly restrictive. Current and emerging technologies which prevent the pollutant from being created appear not to qualify under current law. This restriction unnecessarily discriminates against these current and emerging technologies.

Tax-Exempt Financing

Under prior law, tax-exempt financing was available to help lower the cost of financing qualified pollution control expenditures. As a result of the Tax Reform Act of 1986 (1986 Act), the provision for tax exempt financing of these facilities has been repealed.

Investment Tax Credits and Other Incentives

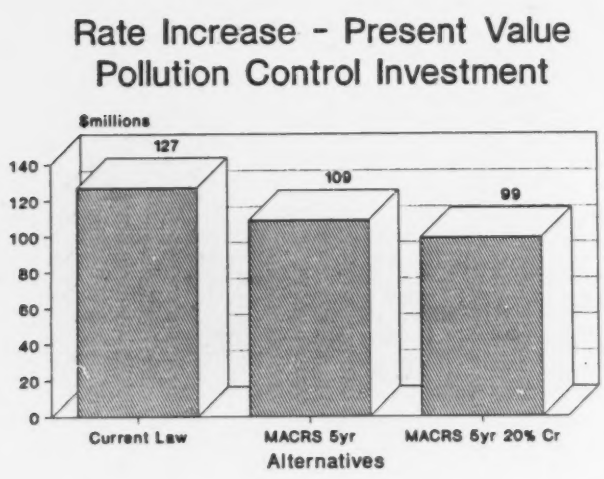
Prior to the 1986 Act, electric utility taxpayers generally had available the following capital formation incentives:

- o Investment Tax Credit
- o 15 year ACRS depreciation
- o A current deduction for income tax purposes for construction period interest and taxes.

All of these incentives helped defray the costs of pollution control facilities. However, the 1986 Act either repealed the incentives or reduced their benefit. In addition, the 1986 Act added the alternative minimum tax which could further reduce the benefit of any remaining incentives. Consequently, because of the substantial cost of pollution control facilities and the limited availability of capital formation incentives under present tax law, electric rates in the future will increase even more dramatically than under prior tax law.

EEI has recently calculated the results of two capital formation incentives which could be made available to help mitigate the substantial capital costs of meeting proposed clean air standards. These capital formation incentives are not meant to be an all inclusive list, but are meant to be illustrative of the role capital formation incentives can take in mitigating these capital costs. These alternatives are compared on a present value basis assuming a generic $100 million capital

investment. Our analysis has focused on the impact that each of these tax incentives could have on electric rates. Our findings are shown graphically and summarized below:



$100 MILLION INVESTMENT

	Present Value of Rate Increase Over Investment's Life (1)	Benefit Greater than Current Law
o Current Law (20 yr. MACRS).(2)	$127 million	Current Law
o MACRS 5 yr.	109 million	14%
Assumes a new class life under IRC Section 168 established for equipment which prevents the creation of a pollutant or removes it once created.		
o MACRS 5 yr., 20% Environmental Tax Credit.	99 million	22%
Assumes a new class life and a 20 percent credit on the investment.		

(1) This analysis does not consider increased operating and maintenance costs associated with this equipment.

(2) Modified Accelerated Cost Recovery System (MACRS) is the depreciation system allowed under current law.

This analysis illustrates the following general conclusions:

- Shortening the tax depreciation life from the present twenty years to five years could reduce the cost to our customers by approximately 14 percent over the facilities' lives. This new class life would eliminate the restrictions and limitations currently included in the 60 month amortization provisions under Section 169 of the Internal Revenue Code.

- The implementation of a 20 percent tax credit could reduce customer costs by approximately an additional 8 percent.

- The specific impact on customer costs of any incentives can vary depending on how they may be combined.

This analysis only evaluates the impact on customers of a generic capital investment of $100 million. It is important to note that our study has not considered increases in operating and maintenance costs which, in some circumstances, could be equal to or greater than the costs discussed in this study.

In summary, the comparisons of the cost recovery alternatives demonstrate that the federal tax system, through capital formation incentives, could significantly mitigate the impact of potential clean air legislation.

Energy Conservation Incentives for Our Customers

Effective utilization of our energy resources should be a primary concern in the development of our nation's energy, environmental and tax policies. Electric utilities have been a leader in promoting energy efficiency through various methods of conservation. The industry has already eliminated or deferred the need for the construction of an additional 20 thousand megawatts of generating capacity since 1977. We further estimate that the need for an additional 23 thousand megawatts of future generation capacity can be eliminated or deferred by utilizing energy efficiency and conservation measures through the decade of the 1990s. This generation capacity savings is equivalent to $20 billion and $23 billion, respectively, of investment in utility plant.

Incentives for energy efficiency are both necessary and cost effective. The industry has long supported and promoted such measures for a number of reasons. The incentives encourage energy conservation investments, which reduces peak demand and overall energy usage, thus benefitting our nation's energy supply, the environment and our customers. These benefits are achieved through a reduction in new power plant construction and a reduction in the amount of fuel needed to meet customer demand.

Increased energy efficiency requires a substantial investment by customers. To encourage customers to invest in energy efficient equipment and conservation measures, utilities provide incentives including on-site energy audits, insulation assistance, innovative pricing structures, financing assistance, cash rebates and discounts on the cost of electricity. Today, there are nearly thirteen hundred utility sponsored programs involving agricultural, industrial, commercial and more than fifteen million residential customers. Through these programs, utilities are expending in excess of one billion dollars annually.

Recently, the Internal Revenue Service (IRS) issued a technical advice memorandum which holds that incentives provided for the purchase of energy efficient equipment or conservation measures are taxable to the recipient. This conclusion is inconsistent with both existing law and the specific exclusion

under the National Energy Conservation Policy Act, 42 U.S.C. Section 8217(i), which recently expired. The national objective of achieving energy efficiency through conservation incentives is impaired by the IRS's interpretation.

Our nation's tax policies should be consistent with and support energy conservation. We strongly believe that the tax laws should clarify existing law by providing a specific income exclusion for incentives provided to all utility customers for the purchase and installation of energy efficient equipment or conservation measures.

In summary, Mr. Chairman, EEI strongly believes the solution to the nation's environmental concerns does not lie in a punitive and unwarranted emissions tax. If it is the will of our nation to require stricter emission standards for electric power plants, then consideration should be given to the role that this Committee and the tax code might play in achieving that goal. Finally, we believe our nation's tax policies should be consistent with and encourage energy conservation. EEI appreciates the opportunity to present its views before the Committee on this important matter.

Mr. ANDREWS. Thank you, Mr. Mitchell.
Mr. Fay.

STATEMENT OF WILLIAM D. FAY, ADMINISTRATOR, CLEAN AIR WORKING GROUP

Mr. FAY. Mr. Chairman, Mr. Pickle, thank you for the opportunity to appear here today. I'm William Fay. I'm the administrator of the Clean Air Working Group. We are a coalition of 1,950 small and large businesses, trade associations, and industries working for a new stronger and affordable Clean Air Act this year.

Many of CAWG's member companies are also appearing before you today to testify on the adverse economic impacts of pollution taxes on their businesses and the economy as a whole. Mr. Chairman, I would like to associate my organization's remarks with their testimony.

But there is another aspect of direct regulation that I would like to address today. I think it is within the scope of this committee. That is the economic effects of new Clean Air Act amendments and their econometric impact on interest and inflation rates, on the sensitivity of the trade imbalance to higher regulatory costs, and on the budget deficit—both through Federal revenue reductions from lower corporate profitability and increased social and unemployment costs that may result from layoffs.

At the outset, Mr. Chairman, I would like to state clearly that American businesses, both small and large, want a new stronger clean air bill this year. We support the efforts of the House of Representatives to modify the President's bill, H.R. 3030. When the President introduced his legislation, he did try to balance the economic impacts of his bill with the environmental improvements that would result. He succeeded in many of the areas, and 160 Members from both sides of the aisle cosponsored that bill and are working to improve it. But we harbor some serious concerns about the economic impacts of several alternative proposals, including the Senate bill, S. 1630, and the recently announced Senate-administration compromise.

The Department of Commerce reports that Americans spend $32 billion a year to meet the requirements of the existing act. That is an amount that both in dollars and as a percentage of our gross national product is far more than any other nation spends on its air quality.

While CAWG agrees that the additional spending is merited, the cost effectiveness of various proposals must also be considered. The competing versions of the Clean Air Act share very similar goals but would have widely differing impacts on the economy. A Business Roundtable study concluded that the very extreme Senate bill would cost this Nation $54 billion a year, an amount which in the worst case could rise as high as $104 billion. In contrast, the Roundtable study pegged the cost of the administration bill at $22 billion, and a Dingell-Waxman compromise on tailpipes that added another $9 billion to that.

Because new regulations will impose billions in additional costs without increasing our productivity or our productive capacity, Americans are going to face expanded inflationary pressures. In

some cases, businesses will be able to pass those costs through to consumers, and in that case that is, by definition, inflationary and at the same time the higher prices render our goods less competitive internationally. In other cases, businesses are going to have to simply absorb those costs. They won't be able to pass them on, perhaps because the prices of their products are set by world markets. Under that scenario, the increased cost of goods sold are going to require internal choices such as job layoffs, such as the deferral of modernization or capital improvements, or other reduction of employee benefits, or other actions. There's no question that in any case the domestic economy that remains after passage of a new clean air bill will not be as healthy and competitive as it is today. I certainly hope that members of this committee who worked diligently to pass the omnibus trade bill last year will consider what passing the wrong kind of clean air bill will do to tilt the playing field away from our direction. The environmental conscience that adds to our cost of goods sold is not mirrored in the prices of the foreign products with which we compete.

A recent study by Dr. Robert W. Hahn and Dr. Wilbur Steger, economic professors at Carnegie-Mellon, show that the Senate bill would cost this Nation 750,000 jobs. The administration bill would cost 350,000 jobs. Under no scenario would the job impact be less than 200,000. Those kinds of dramatic changes in employment are going to increase the call on Federal unemployment compensation funds and other social programs.

When you think of the fact that the bills before Congress accomplish essentially the same goals—that is, a 10-million-ton reduction of sulfur dioxide, attainment of the ozone standards at about the same time—it is not difficult to see that the wrong clean air bill will do great economic damage but add very little to environmental quality. That is the reason that the AFL-CIO had a representative with industry when we did announce the job impacts of a new clean air bill, and there is no small wonder that a statement by the AFL-CIO Executive Council states that "with a realistic timetable and a proper regard for economic growth, the goals of the Clean Air Act can, and must be met without significant job loss or dislocation." We agree with that objective.

While the extreme environmental community wants a debate framed only in the context of environmental improvements, Congress and the President must consider the economic impacts of this legislation on jobs, the competitiveness, and the economic health of this country. Passage of the wrong bill could have disastrous economic consequences.

In addition, environmental regulation does slow economic growth. A study by Dale Jorgenson and Peter Wilcoxen of the Harvard Institute of Economic Research concluded that environmental regulation reduced the U.S. gross national product 2.59 percent between 1975 and 1985. In their abstract, they state that "We find that environmental regulation has been an important contributor to growth slowdown. We also find that pollution abatement has emerged as a major claimant on the resources of the U.S. economy."

The effects of increased regulation clearly reach well beyond just corporate America. Small business—the most dynamic sector of our

economy—will suffer, too. The study by Drs. Hahn and Steger predicted that 1.1 million small business jobs will be adversely affected by just the ozone nonattainment permitting fee requirements now under consideration.

In closing, Mr. Chairman, I commend Chairman Rostenkowski for his interest in the fees imposed by the Senate bill, S. 1630. His recent letter to Senator Bentsen highlights some of the problems with the Senate effort to amend the Clean Air Act. Clearly, however, the fee provisions of these bills represent only a small part of their effects on the economy as a whole. I encourage you and the members of this committee to review both bills and to consider their impacts on the environment and the economy.

Again, Mr. Chairman, thank you for the opportunity to testify. I would be happy to answer any questions.

[The statement of Mr. Fay follows:]

STATEMENT OF WILLIAM D. FAY, CLEAN AIR WORKING GROUP

Mr. Chairman, members of the Committee, thank you for the opportunity to appear before you today. I am William D. Fay, Administrator of the Clean Air Working Group, a coalition of 1,950 small and large businesses, industries and trade associations working for passage of a new, stronger and affordable Clean Air Act this year.

Many of CAWG's member organizations are also appearing before you to discuss the adverse effects of pollution taxation on their businesses and on the economy as a whole. I wish to associate my organization with the testimony of the National Association of Manufacturers, the Chemical Manufacturers, the National Coal Association and the Edison Electric Institute in that regard.

But there is another aspect of direct regulation that I hope this committee will explore -- the economic effects of new Clean Air Act amendments and their econometric impact on interest and inflation rates, on the sensitivity of our trade imbalance to higher regulatory costs and on the budget deficit -- both through federal revenue reductions from lower corporate profitability and increased social and unemployment program costs that result from layoffs.

At the outset, I would like to state clearly that American businesses -- both large and small -- want a new, stronger Clean Air Act this year. We support the efforts of the House of Representatives to improve the President's Clean Air Act proposal, H. R. 3030. When the President introduced his legislation, he seriously attempted to balance economic effects with significant improvements in air quality. He succeeded in most areas, and 160 Members of Congress from both sides of the aisle cosponsored his bill and are working to improve it. But we harbor serious concerns about the economic impacts of several alternative proposals, such as the Senate bill (S. 1630) and the recently announced Senate/Administration compromise.

Next to the Internal Revenue Code, the Clean Air Act is probably the most complex federal regulatory program. It is also probably the most expensive. The Department of Commerce reports that Americans spend $32 billion a year to meet the requirements of the existing act. Most economists agree that $32 billion is a significant figure. It is, both in amount and as a percentage of Gross National Product, far more than any other nation spends on its air quality.

Program costs. While CAWG agrees that additional spending is merited, the cost-effectiveness of various proposals must also be considered. The competing versions of Clean Air Act amendments share similar goals -- but would have widely differing effects on the economy. A Business Roundtable study concluded that the very extreme Senate proposal would cost $54 billion annually, a number which, in the worst case, could rise as high as $104 billion. In contrast, the Roundtable study pegged the cost of the President's bill at $22 billion. A compromise on automobile tailpipe standards reached by Chairmen John Dingell and Henry Waxman would increase the cost of the President's bill to $31 billion per year.

Inflation and Competitiveness. Because new regulations will impose billions in additional costs without increasing productivity, Americans will face expanded inflationary pressures. In some cases, business will be able to pass new costs through to the consumer. This not only hurts consumers, it is by definition inflationary, and the higher prices render our domestic goods less competitive. In other cases, business will simply have to absorb the costs, perhaps because their prices are set by world markets. Under this scenario, the increased cost of goods sold will require internal choices to be made -- deferring modernization or capital improvement, reducing

employee benefits or actually cutting employment. But there is no question that in any case, the domestic economy that remains after passage of any new Clean Air bill will not be as healthy or competitive as it is today. I sincerely hope that Members of this Committee, who worked diligently to level the playing field in world markets through passage of an Omnibus Trade bill last Congress, will consider what passing the wrong Clean Air bill will do to tilt that field. The environmental conscience that adds to our cost of goods sold is not mirrored in the prices of the foreign products with which we compete.

Jobs. A study by Dr. Robert W. Hahn and Dr. Wilbur A. Steger, economic professors at Carnagie-Mellon, quantified the jobs that would be lost or adversely affected under a variety of Clean Air Act amendment scenarios. The results showed that the Senate bill would cost this nation 750,000 jobs and adversely affect 3.7 million jobs in the aggregate. The House/President's bill would result in the loss of 350,000 and adversely affect 1.5 million jobs. Under no scenario would the job losses be less than 200,000. Such dramatic changes in employment would increase the call on federal unemployment compensation funds and other social programs, as well as cut the flow of tax dollars from individuals.

Environmental Goals. When you think of the fact that both the Senate and House bills accomplish the same environmental goals -- a 10 million ton reduction in sulfur dioxide emissions, tightened auto tailpipe standards, a 70 to 90% reductions in air toxics emissions and nationwide attainment of smog standards under the same timetable -- it is not difficult to see that the wrong Clean Air bill will do great economic damage, but add little to environmental quality. No wonder a representative from the construction trades was there with industry and the authors from Carnagie-Mellon to announce the findings of the job impact study. No wonder a statement by the AFL-CIO Executive Council adopted last August states:

> (w)ith a realistic timetable and a proper regard for economic growth, the goals of the Clean Air Act can, and must be met without significant job loss or dislocation.

The business community strongly agrees with that objective. While the extreme environmental community wants the debate framed only in context of environmental improvements, Congress and the President must consider the economic impacts of legislation on jobs, competitiveness and economic health. Passage of the wrong bill could have disastrous consequences.

Reduced corporate profits due to increased cost of goods sold, for example, would also diminish the flow of federal corporate tax dollars and ultimately increase the federal deficit. And a growing deficit places additional inflationary pressure on interest rates.

In addition, environmental regulation does slow economic growth. A study by Dale Jorgenson and Peter Wilcoxen of the Harvard Institute of Economic Research concluded that environmental regulation reduced the U.S. gross national product 2.59 percent between 1973 and 1985. During the same period, the U.S. economy grew about 2.5 percent annually -- 1.2 percent lower than the average annual growth rate between 1947 and 1973. Their abstract states:

> (w)e find that environmental regulation has been an important contributor to the growth slowdown. We also find that pollution abatement has emerged as a major claimant on the resources of the U. S. economy. The cost of emission controls is more than ten percent of the total cost of government purchases of goods and services.

Perhaps prophetically, the headlines of The New York Times on Sunday read: "Half of States Strive to Avert Perilous Deficits -- Programs and Jobs at Stake -- Revenue Shortage Tied to National Slowdown."

The effects of increased regulation clearly reach well beyond corporate America. Small business -- the most dynamic sector of our economy -- will suffer, too. The study by Drs. Hahn and Steger predicted that 1.1 million small business jobs will be adversely affected by just the ozone nonattainment permitting fee requirements now under consideration. The major reason for this impact is the $15,000 in expenses related to obtaining mandatory permits that the average small business will incur -- permits that under one plan would be valid for only five years. These are not permit fees -- they are another tax. I would like to point out that, in this particular instance, the permitting fees won't reduce pollution at all. Instead, they are being used to build a bureaucracy.

In closing, Mr. Chairman, I commend you for your interest in the fees imposed by the Senate bill, S. 1630. Your recent letter to Senator Bentsen highlights some of the problems with the Senate effort to amend the Clean Air Act. Clearly, however, the fee provisions of these bills represent only a small part of their effects on the economy as a whole -- and on the revenues the federal government ultimately receives. I encourage you, and your fellow members, to review both bills and to consider their effects on the environment and on the economy.

Again, Mr. Chairman, thank you for this opportunity to testify. I would be happy to answer any questions the committee might have.

Mr. ANDREWS. Thank you, Mr. Fay.

Our next witness is Mr. David Freeman, general manager of the Lower Colorado River Authority from Austin, TX.

Mr. PICKLE. Mr. Chairman, if I may, I would like the privilege of officially presenting Mr. Freeman. He is the director of our LCRA, general manager, and a very good one. He comes to us from the Tennessee Valley Authority, where he served as chairman of that board, and then previous to that he served in the White House, helped draft EPA legislation, and advanced some of our energy policies in the early years, and even worked once with the Senate Commerce Committee. So he has a splendid background, and he will be willing to tell you more about some of the good things that he has done. But he will speak highly of himself, and I want him to because he has every reason to. But he has given us excellent leadership with the LCRA and on energy and conservation matters, and nobody is better qualified to speak about the environment and the responsibility of Government to take the lead. I know that Dave Freeman does that, and we are proud to have him with us today.

Mr. Freeman, welcome to our committee.

STATEMENT OF S. DAVID FREEMAN, GENERAL MANAGER, LOWER COLORADO RIVER AUTHORITY, AUSTIN, TX, ON BEHALF OF THE AMERICAN PUBLIC POWER ASSOCIATION

Mr. FREEMAN. Thank you for that very warm welcome. I hope the chairman and Mr. Pickle will overlook that brief service with the Senate and take my testimony for what it is worth. We grow older and we learn. [Laughter.]

I am here today to testify on behalf of the American Public Power Association which represents more than 1,750 local publicly owned utilities.

I am aware that the main purpose of the Tax Code is to raise revenue, but no one living in Texas can deny that the Tax Code also contains provisions to encourage production of petroleum. In the years ahead, it is perhaps most important that the Tax Code provides incentives for energy conservation and environmental protection, and I am pleased that the committee, through today's hearings, recognizes this need.

My purpose is to advance certain tax incentives to promote energy conservation and sound environmental policy, and to make those proposals revenue neutral. The proposals are designed to help overcome severe environmental problems that plague the Nation, and also to reduce the national security and financial problems of our growing dependence on imported oil. Specifically, the proposals I will discuss are:

First, to encourage energy conservation by excluding from a taxpayers's gross income conservation rebates provided by the electric utilities. On this issue, we join with our colleagues from the Edison Electric Institute.

The second proposal is one which I trust they will also support, to stimulate demand for electric vehicles by providing a tax credit for the vehicle purchaser. I also will have some comments on emission fees.

My first proposal is offered to reverse a recent IRS ruling on utility rebates that will severely discourage effective conservation programs. Mr. Chairman, the IRS seems to understand that an automobile dealer's cash rebate program can help sell a car and is merely a reduction in the purchase price of the car. Those rebates are not taxed. They are an important part of the American economy these days.

The IRS doesn't seem to understand that a cash rebate by a utility serves the same function. Car dealers are trying to sell more cars, while utilities are trying to sell less electricity to avoid expensive new power plants. The rebate is for the benefit of the seller in both cases, as well as the customer. Yet the automobile rebates to sell cars are not taxed, while utility rebates to encourage more efficient use of electricity are taxed. In both cases, the rebate is used as an inducement to encourage action that benefits both the seller and the purchaser.

The IRS does not consider as taxable income conservation measures that are encouraged through a bill reduction that is spread over a long period of time. For example, if we provide a $3 a month credit for conservation, that is not taxable. But if the utility tries to use the same marketing skill as the automobile industry and concentrates the long series of rate reductions into a single payment, it becomes a rebate to the IRS and is considered taxable. Without legislative action, starting in this committee, this incongruous tax policy will remain and the effectiveness of utility cash rebates to encourage conservation will be eroded. The American Public Power Association believes that rebates that are widely used should be allowed to continue.

The other measure that I propose, Mr. Chairman, deals with the main environmental problem facing America. In the words of President Bush, it is how to reconcile the automobile to the environment. Most cities don't meet the current clean air standards, and with all due respect to a lot of good testimony you have heard this morning and elsewhere, switching from gasoline to methanol or ethanol is just a liquid form of light bulb switching. There is no way America can keep burning 200 billion gallons of liquid petroleum a year in motor vehicles on our city streets and highways and ever have clean air. Electric transportation can provide cleaner air, and it will also reduce oil imports, which is a vital problem plaguing this Nation's balance of trade and threatening oil shock and gasoline lines.

The potential benefits of an electric car are not in dispute. Congressman Madigan introduced an article in the February 27 Congressional Record from Forbes magazine documenting their environmental benefits. The problem is that while this country has been successful in putting an electric vehicle on the Moon, we haven't gotten one in the showrooms yet. The reason is the same thing that is true of a lot of new technologies.

The electric car could be built. General Motors just got through talking about one. But in order to become economical, they need to be mass produced, and with the price of gasoline relatively low, there just isn't the incentive for the manufacturers to go all out for the development and cut costs. What we are suggesting is a tax credit to the purchaser of an electric car of up to $5,000 over a 10-

year period to provide a market incentive to get these cars on the road. In order to make this revenue neutral, we suggest making up the revenue by an increase in the gas-guzzler excise fee, which would seem to be an appropriate revenue source since it, too, would tend to further reduce pollution and oil imports.

Tens of millions of electric cars could be powered without adding a single powerplant. Charge the batteries at night, improve the efficiency of the electric system, reduce rates to all consumers. The Federal Government can and should assume a leadership role in encouraging electric vehicle production.

If I could just add one thought at the end, the American Public Power Association does support the objectives of the President's clean air legislation. But in my opinion, it is time that this committee and the Congress look seriously at enacting a whole range of sizable pollution fees as a serious option for simultaneously improving the environment and helping balance the Federal Government's budget.

Mr. Chairman, a tax is a regulator that works 7 days a week, 24 hours a day, and there are no loopholes. And there have never been any Ann Gorsuches at the IRS. No one has ever accused them of underregulating and not enforcing the law. And if you look to the future, take the environmental problems as seriously as the Nation takes them, the time has come to put the Tax Code to work, both in terms of incentives and pollution fees to help us cure these environmental problems.

Thank you, sir.

[The statement of Mr. Freeman follows:]

Statement of
S. DAVID FREEMAN, GENERAL MANAGER
LOWER COLORADO RIVER AUTHORITY
on behalf of the
AMERICAN PUBLIC POWER ASSOCIATION
before the
HOUSE WAYS AND MEANS COMMITTEE

March 6, 1990

Mr. Chairman, my name is David Freeman and I am general manager of the Lower Colorado River Authority, a Texas public power agency.

I am here today to testify on behalf of the American Public Power Association, which represents more than 1,750 local, publicly owned utilities. APPA and its members have a strong commitment to providing reliable, affordable electric service in a manner consistent with protecting the environment. That means that public power promotes conservation and renewable power sources that minimize pollution.

My career includes public service as Chairman of the Board of the Tennessee Valley Authority, as a Carter White House energy staff member who helped prepare the President's first energy plan, and as a staff member of the Senate Commerce Committee actively participating in the enactment of energy conservation legislation such as the Automobile Fuel Economy Act. Between 1967 and 1971, as energy policy staff director in the White House, I coordinated energy matters on a government-wide basis and participated in establishing the Environmental Protection Agency as a separate agency.

I am aware that the main purpose of the tax code is to raise revenue. But no one living in Texas can deny that the tax code also contains provisions to encourage production of petroleum. Tax incentives are one of the most efficient tools available to government to encourage or discourage investments by the tax paying public. In the years ahead, it is perhaps most important that the tax code provides incentives for energy conservation and environmental protection. I am pleased that the committee, through scheduling of today's hearing on tax policy and the environment, recognizes this need.

My purpose today is to advance certain tax incentives to promote energy conservation and sound environmental policy and to make those proposals revenue-neutral. The proposals are designed to help overcome severe environmental problems that plague the nation and also to reduce the national security and financial problems of our growing dependence on imported oil. Specifically, the proposals I will discuss include:

1. Encouraging energy conservation by excluding from a taxpayers' gross income energy conservation rebates provided by electric utilities;

2. Stimulating demand for electric vehicles by providing a tax credit for vehicle purchasers;

3. Maintaining the ability of state and local governments to use tax-exempt bonds to meet environmental objectives and supporting the TRA '86 restrictions on the access of private entities to the municipal bond market; and

4. Supporting the use of an emissions fee -- applied to all sources of pollution -- as an appropriate means of cost-sharing <u>if</u> cost-sharing is incorporated in any acid rain proposal.

<u>Taxing Conservation Rebates</u>

My first proposal is offered to reverse a recent IRS ruling that will severely discourage effective conservation programs. On February 27, 1989, the IRS issued technical advice memorandum number 8924002. This memorandum described an unnamed rural electric cooperative's program to control the demand for electricity by providing cash rebates to customers who installed

alternative heating systems that could be used during periods of heaviest demand.

The IRS treated the cash assistance payments made by "cooperative X" as compensation for services provided to the cooperative rather than treating the payment as an incentive discount on rates to the consumer. "Compensatory payments are (to be included) in the recipient's gross income unless specifically excluded by law," the IRS said. "There is no provision of law that would exclude from a recipient's gross income cash assistance payments of the type made by X to its customers."

In fact, there was a provision of law excluding these types of cash payments from gross income. The Solar Energy and Energy Conservation Act of 1980 amended Section 8217 of the National Energy Conservation Policy Act of 1978 (NECPA) by adding subsection (i) which states:

> "the value of any subsidy provided by a utility to any residential customer for the purchase and installation of residential energy conservation measures shall not be included in the gross income of such customer for purposes of Title 26, and such customer shall not receive any increase in basis under Title 26 which is attributable to any such subsidy."

This section of NECPA would suggest that the IRS acted improperly and no problem exists. Unfortunately, that section of NECPA expired in July, 1989. As it stands right now, payments made from a utility to a residential customer for conservation must be counted as gross income. Moreover, even when the provision was in effect, it did not include industrial or commercial customers.

The IRS understands that an automobile dealer's cash rebate program can help sell a car and is merely a reduction in the purchase price of the car; these rebates are not taxed. But the IRS doesn't understand that a cash rebate by a utility serves the same function. Car dealers are trying to sell more cars while utilities are trying to sell less electricity to avoid expensive new power plants. The rebate is for the benefit of the seller (and customer) in both cases. Yet automobile rebates to sell cars are not taxed while utility rebates to encourage more efficient use of electricity are taxed.

The IRS distinguishes between these rebates by noting that the utility is using the rebate to reduce the price of a product it did not sell (such as a super-efficient furnace), and receiving a direct benefit from the customer (reduced electric demand) in return for the cash payment. However, I believe this is a distinction without a difference: in both cases the rebate is used as an inducement to encourage an action that benefits both the seller and purchaser. The IRS is wrong.

Moreover, it should be noted that the IRS does not consider as taxable income conservation measures that are encouraged through bill reductions that are spread out over time -- for instance a $3.00 monthly bill credit. If, however, a utility seeks to concentrate the rate discount into a single payment, it becomes a rebate and is considered taxable income. Applying different tax treatment to these similar programs -- and taxing the program that is most effective -- is unjustifiable. However, without legislative action this incongruous tax policy will remain and the effectiveness of utility cash rebates to encourage conservation will be eroded.

APPA believes that this committee should restore the prior tax treatment of conservation rebates and expand it to include industrial and commercial customers. Legislation to affect this change will be introduced today by Representative Kennelly and other members of this committee. I commend the authors of this legislation for seeking to correct this vexing problem, and I would urge its swift adoption.

Rebate programs are an increasingly popular -- and effective -- method of encouraging customers to purchase more energy efficient appliances, air conditioning systems, lighting products, motors and other conservation measures. The Consumer Energy Council of America Research Foundation and the American Council for an Energy-Efficient Economy surveyed utilities across the country and found that of the 132 utilities that responded to the

questionnaire, 59 had rebate programs. The study concluded that 35 to 50 percent of the nation's electric utility customers are served by utilities that have some form of an energy efficient rebate program.

Rebate programs are widely used because they work. They work at my utility and they result in increased efficiency in the use of electricity in all parts of the nation.

A number of utilities have conducted studies on how financial incentives influence program participation. These studies demonstrate that financial incentives can significantly increase purchases of high-efficiency appliances and other conservation measures. The New York State Electric and Gas Corporation, for example, found that the market share for efficient refrigerators was nearly 60 percent in the area in which a $50 rebate was provided, compared to 49 percent in the $35 rebate area, 35 percent in the advertising-only area, and 15 percent in the control area with no rebates or advertising.

According to this study and others, customers are very responsive to the amount of the rebate offered by utilities. Taxing these rebates would be a major disincentive to invest in conservation.

An article in the February 12, 1990, edition of the Washington Post confirms the positive impact of, and need for, up-front rebates (attached). As noted in the article, consumers heavily discount life-cycle savings and are generally unwilling to pay a little more money up front to save more money in the long run. Customer rebates can play a significant role in overcoming this shortage of consumer capital. By "buying down" the original cost of conservation efforts, utilities can encourage activities that benefit the entire customer base and reduce the sources of pollution in the future.

There is agreement among utility industry representatives, regulators, conservation groups and consumers that rebates to commercial and industrial customers should also be encouraged and favorable tax treatment of these rebates provided.

Simply stated, conservation measures, regardless of customer type, benefit all customers and help reduce pollution. By reducing load, utilities can avoid building additional generating capacity and avoid emitting more pollutants into the air.

In the next ten years, for example, conservation programs can save over 20,000 megawatts of electricity, avoiding the need for over $20 billion dollars of capital expenditures and the consumption of huge additional quantities of air-polluting fossil fuels. Moreover, the cost of energy saved is cheaper with commercial and industrial customers. Commercial and industrial lighting rebate programs, for instance, appear to be the most cost effective conservation investment on the basis of cost per kw of peak demand saved.

Years of experience has taught utility executives what encourages conservation and what doesn't. Rebates do, and taxing those rebates won't. APPA -- along with the Edison Electric Institute, the National Rural Electric Cooperative Association, the Alliance to Save Energy, the National Association of Regulatory Utility Commissioners, the Energy Conservation Coalition, Citizen Action, and the American Council for an Energy Efficient Economy -- supports legislation to reauthorize Section 8217 (i) of NECPA and expand it in order to also exclude utility conservation payments to commercial and industrial customers from gross income.

The expiration of the NECPA provision exempting conservation rebates from gross income, the issuance of the recent IRS technical advice memorandum, and increased IRS efforts to enforce this position, clearly threaten the ability of utilities effectively to encourage conservation. Some utilities will cancel or postpone conservation programs; others will choose other conservation programs that, while less effective, avoid this tax problem.

Mr. Chairman, we are not seeking a tax subsidy. We merely ask the Congress to give us equal treatment with the automobile industry and recognize that with some 15 years experience the utility industry has learned how to

encourage conservation, just as the car dealers have learned that rebates are needed to sell cars. As I noted earlier, if structured as bill reductions instead of cash payments this problem would not arise -- and no revenue loss to the Treasury would be considered. Therefore, changing the tax code to facilitate a similar, more effective conservation incentive should not be seen as reducing revenue.

Restoring and expanding this provision, through enactment of the legislation introduced today by Representative Kennelly, will enable utilities efficiently to use rebate programs, facilitate significant energy conservation investments, and properly use the tax code to achieve environmental objectives.

Electric Vehicles

As President Bush aptly observed last year, the main environmental problem facing America is to "reconcile the automobile to the environment." The London Economist, not exactly an environmental alarmist, puts it this way:

> "Car exhaust makes ozone (which damages lungs) and kills trees (far more than does power-station smoke). Cars demand the drilling for oil in wilderness; they dictate a growing dependence on imports of oil (about half of America's oil now comes from abroad)....Cars make much of the carbon dioxide that may overheat the global greenhouse."

Most American cities don't meet the current clean air standards. And with all due respect, switching from gasoline to methanol or ethanol is just a "liquid form of light bulb switching." There is no way America can keep burning some 200 billion gallons of liquid petroleum a year in motor vehicles on our city streets and highways and ever have clean air.

Electric transportation can provide cleaner air in our cities. This was confirmed by a recent Worldwatch Institute report which found that "for the long run, electricity and hydrogen are probably the most promising of the alternative fuels." The main point is that the electric car emits no pollution at lung-level, so to speak, and the electricity required to run these cars comes from power plants where there is little or no air pollution (hydro, nuclear, and, in the future, solar) or where controls are quite effective. Thus, total pollution can be reduced and community-specific pollution vastly reduced by electric transportation replacing petroleum-powered motor vehicles.

Cleaner air and fewer oil spills are not the only reason to promote electric cars. Reducing oil imports is another reason of vital importance to the nation. The U.S. is now importing over half its oil supply and the transportation sector now consumes 60 percent of the oil used in this country. Thus, electric cars powered mostly with domestic-fueled electricity offer an opportunity to reduce our growing dependency on imported oil.

Oil imports pose the threat of oil shock from future price increases and the fear of embargoes and gasoline lines. And there is the clear and present dollar drain. Oil imports now account for an estimated one-quarter of the U.S. balance of trade deficit. Replacement of gasoline-powered vehicles with EV's could displace large amounts of imported oil. According to the Electric Power Research Institute, substitution of electric vehicles for each one percent of the 200 million vehicles currently registered in this country would save approximately 35 million barrels of oil per year and reduce our trade deficit by $1 billion annually.

Electricity also has the advantage of being generated with a mix of predominately domestic resources. The substitution of conventionally-fueled vehicles with electric vehicles thus offers one important means of insulating the national economy from the shocks occasioned by any disruption in the oil marketplace.

The potential benefits of an electric car are not in dispute, although they are not well recognized. The problem is that while America put an electric vehicle on the moon, it has yet to get one in the automobile showroom. The general impression is that the technology for economic electric vehicles doesn't exist. Not true.

A good example of the electric vehicle's potential is General Motor's new prototype car, the Impact. It can travel 120 miles at 55 mph before recharging and goes from 0 to 60 mph in 8 seconds. It's a car that could sell, but in order to be economical it would need, by conservative estimates, a market of 100,000 vehicles per year and a longer life battery. The battery improvement work is underway in cooperation with the Electric Power Research Institute.

We are faced with a problem true of most new technologies. Electric vehicles with sufficient power and range to be useful town cars have been built. But in order to become economical they need to be mass-produced. And the initial price is just too high with America's low priced gasoline. This situation doesn't provide the incentive for manufacturers to go all out for the development program to cut costs.

The most effective step to get the electric car on the road would be to provide a tax credit to the purchaser. APPA suggests that a tax credit, equal to the lessor of 25 percent of the purchase price of the vehicle or $5,000, be provided to purchasers of electric vehicles. This tax credit would stimulate demand and give manufacturers large and small an incentive to accelerate their development. The tax credit, which could be reduced as the market develops and discontinued after 10 years, could be targeted to purchasers living in non-attainment areas under the Clean Air Act. Such targeting has two benefits:

1. Providing a strong tax incentive where it is most needed, since the tax credit would be targeted to areas in greatest need of cleaner air; and

2. Concentrating EV purchase and use in a discrete number of urban areas, which would facilitate marketing efforts and service.

Experts in the field believe that no more than 100,000 electric vehicles must be purchased for the market to be self-sustaining. Therefore, at a maximum credit of $5,000 per vehicle, available for 10 years, the total cost of this proposal could be $500 million of $50 million a year. If the tax credit was reduced over time, or discontinued if market demand exceeds expectations, the total cost could be much less.

APPA recognizes the problems posed by the current federal budget deficit and the need for programs to be "revenue neutral." I, therefore, would suggest that the lost revenue could be made up by an increase in the gas guzzler excise fee, which would seem to be an appropriate revenue source since it would tend to further reduce pollution.

An increase in the use of electric vehicles will clearly increase demand for electricity. That demand, can be met for the next 20 years or more through off-peak sales, without the need to construct additional generating facilities. For example, existing power plants in the Los Angeles basin alone could power a million electric vehicles. Nationwide, tens of millions of electric cars could be powered without adding to our current power capacity. Since electric vehicles would be recharged primarily during off-peak overnight hours, more efficient utilization of electrical generating capacity would be achieved with lower costs for all electric consumers.

Electric vehicles can provide convenient transportation. They can go far toward cleaning the air in our cities, and they can reduce America's growing dangerous dependence on unstable supplies of imported petroleum.

Action by the federal government is necessary to assure that the benefits of electric vehicles are realized in the near term. High per vehicle costs, as well as lack of actual on-the-road driving experience, have kept the demand for electric vehicles far below the level necessary to justify manufacturers' investment in mass production facilities. Without the provision of carefully designed incentives, EVs will continue to be produced in only very small numbers at prohibitive costs.

The Federal government can and should assume a leadership role in encouraging electric vehicle production. APPA urges enactment of the tax credit we have suggested.

Tax-Exempt Bonds and Environmental Infrastructure

In 1986, Congress took steps to redefined which entities could issue tax-exempt bonds and for which purposes. Under the Tax Reform Act, tax-exempt bonds can no longer be issued by or for private entities, such as previously occurred with pollution control bonds. APPA continues to support this distinction and would urge the committee not to retreat from that position in an effort to address our environmental agenda.

At the same time, tax-exempt bonds do serve as an important instrument for local and state governments in meeting environmental objectives. The ability of governmental entities to issue tax-exempt bonds should be maintained.

From 1980 to 1987, federal aid to state and local governments dropped 37 percent. At the same time, Congress increased federal mandates, forcing state and local governments to assume a greater share of the burden in meeting national policy objectives. Many of these, and the more costly I might add, have been in the environmental area.

Without direct federal aid the most stable source for raising public investment to meet the tremendous capital costs for the nation's environmental infrastructure needs is state and local borrowing. The primary source for such borrowing is tax-exempt bonds.

In the past, tax-exempt municipal bonds were a stable source for local borrowing, but the Tax Reform Act of 1986 (TRA 86) made a number of sweeping changes effecting the municipal bonds market. Some of these changes were warranted, and we certainly are not advocating a return to the pre-1986 tax law. As part of TRA 86, Congress legislated to limit the use of tax-exempt bonds to only those projects which were truly public purpose. A number of specific types of facilities, such as private wharfs, airports, and solid waste facilities, were no longer eligible for tax-exempt bonds.

We believe that tax-exempt financing is an essential financing tool for public facilities. Tax-exempt bonds should be used by state and local governments, and not the private sector. While our environmental infrastructure needs are significant, they do not warrant a return to the pre-1986 solution of tax-exempt debt issued on behalf of private parties. We strongly urge that Congress not be pressures to alter the policy it established in 1986.

At the same time, however, the Congress needs to be cognizant of preserving tax-exempt bonds to meet all public infrastructure needs, including environmental infrastructure.

There will be a number of proposals before this committee in the coming year, some of which have a significant impact on the municipal bonds market. APPA urges Congress to consider carefully these measures mindful of the fact that state and local communities cannot meet the significant burden of the nation's environmental infrastructure needs without a flexible and workable municipal securities market.

Emissions Tax

Finally, let me briefly comment on various proposals to reduce the compliance costs of acid rain controls for Midwestern utilities. Since 1984, APPA has vigorously opposed the application of a generation tax on electric sales to fund acid rain controls and supported the use of an emissions fee -- applied to all sources of pollution -- as an appropriate means of cost-sharing. APPA continues to believe that if cost-sharing is incorporated in an acid rain proposal, it should only be done on the basis of a broad-based emissions fee on the source of pollution. Kilowatt hour fees do not recognize or credit emission reductions already achieved, nor their ongoing costs to ratepayers. Moreover, such fees represent a serious and unacceptable departure from the "polluter pays" concept that underlies all our environmental statutes.

The problem is not the consumption of electricity, but the emission of pollutants that can lead to acid precipitation. Emission fees on the

pollutant, such as sulphur dioxide and nitrogen oxide, is the only cost-sharing mechanism that we support.

Let me add a personal note. In my opinion, the time has come to enact a whole range of sizable pollution fees as a serious option for simultaneously improving the environment and helping balance the federal government's budget.

Conclusion

APPA believes these polices can make a significant contribution toward the improvement of the environment while ensuring that the energy needs of our nation are met. I will be happy to answer any questions you may have.

Washington Post 2/12/90

Consumers' Choices About Money Consistently Defy Common Sense

By Malcolm Gladwell
Washington Post Staff Writer

Imagine two refrigerators in the appliance section of a department store. One sells for $700 and uses $85 worth of electricity a year. The other is $100 more expensive but costs only $25 a year to run. Given that either refrigerator should last at least 10 years without repair, consumers would overwhelmingly buy the second model, right?

Well, not exactly. Many studies by economists have shown that in a wide range of decisions about money—from paying taxes to buying major appliances—consumers consistently make decisions that defy common sense.

In some cases—as in the refrigerator example—this means that people are generally unwilling to pay a little more money up front to save a lot of money in the long run. At times, psychological studies have shown, consumers appear to assign entirely whimsical values to money, values that change depending on time and circumstances.

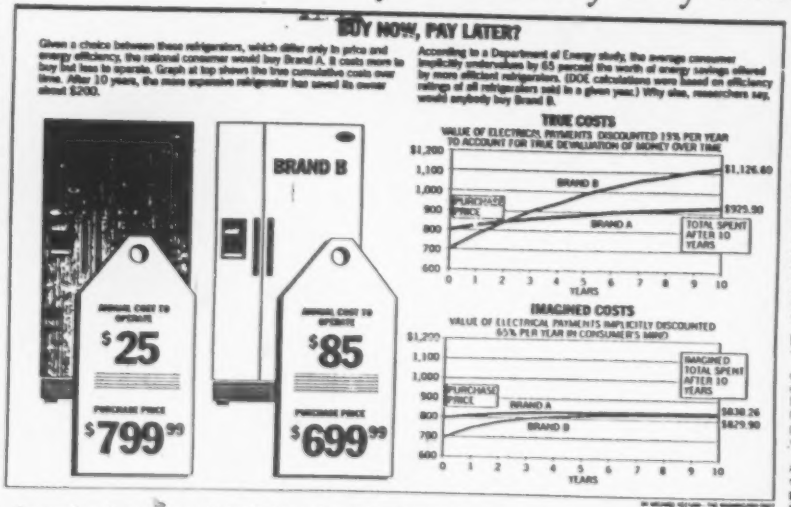
In recent years, these apparently irrational patterns of human behavior have become a subject of intense interest among economists and psychologists, both for what they say about the way the human mind works and because of their implications for public policy.

How, for example, can the United States move toward a more efficient use of electricity if so many consumers refuse to buy energy-efficient appliances even when such a move is in their own best interest?

Discount Rate Concept

At the heart of research into the economic behavior of consumers is a concept known as the discount rate. It is a measurement of how consumers compare the value of a dollar received today with one received tomorrow.

Consider, for example, if you won $1,000 in a lottery. How much more money would officials have to give you before you would agree to postpone cashing the check for a year?


BUY NOW, PAY LATER?
Given a choice between these refrigerators, which differ only in price and energy efficiency, the rational consumer would buy Brand A. It costs more to buy but less to operate. Graph at top shows the true cumulative costs over time. After 10 years, the more expensive refrigerator has saved its owner about $200.
According to a Department of Energy study, the average consumer implicitly undervalues by 65 percent the worth of energy savings offered by more efficient refrigerators. (DOE calculations were based on efficiency ratings of all refrigerators sold in a given year.) Why else, researchers say, would anybody buy Brand B.
BRAND B
ANNUAL COST TO OPERATE
$25
PURCHASE PRICE
$799.99
ANNUAL COST TO OPERATE
$85
PURCHASE PRICE
$699.99
TRUE COSTS
VALUE OF ELECTRICITY PAYMENTS DISCOUNTED 15% PER YEAR TO ACCOUNT FOR TRUE DEVALUATION OF MONEY OVER TIME
$1,200
1,100
1,000
900
800
700
600
PURCHASE PRICE
BRAND B
BRAND A
$1,126.60
$925.90
TOTAL SPENT AFTER 10 YEARS
0 1 2 3 4 5 6 7 8 9 10
YEARS
IMAGINED COSTS
VALUE OF ELECTRICAL PAYMENTS IMPLICITLY DISCOUNTED 65% PER YEAR IN CONSUMER'S MIND
$1,200
1,100
1,000
900
800
700
600
PURCHASE PRICE
BRAND A
BRAND B
IMAGINED TOTAL SPENT AFTER 10 YEARS
$830.26
$829.90
0 1 2 3 4 5 6 7 8 9 10
YEARS

Some people might want $1,100 or at least another $100, or 10 percent, since that is roughly how much it would take to make up for the combined effects of a year's worth of inflation and lost interest.

But the studies show that someone who wants immediate gratification might not be willing to postpone receiving the $1,000 for 20 percent or 30 percent or even 40 percent more money.

In the language of economists, this type of person has a high discount rate: He or she discounts the value of $1,000 so much over a year that it would take hundreds of extra dollars to make waiting as attractive as getting the money immediately.

Of the two alternatives, waiting a year for more money is clearly more rational than taking the check now. Why would people turn down $1,400 dollars next year in favor of $1,000 today? Even if they needed the $1,000 immediately, they would be better off borrowing it from a bank, even at 20 percent or even 30 percent interest. Then, a year later, they could pay off the loan—including the interest—with the $1,400 and pocket the difference.

Buying Appliances

The fact is, however, that economists find numerous examples of such high discount rates implicit in consumer behavior. Studies of consumer behavior in buying home appliances, for example, have found discount rates two or three times—and in the case of water heaters 20 times—higher than could be justified on economic grounds.

In other words, while consumers were very much aware of savings to be made at the point of purchase, they so heavily discounted the value of monthly electrical costs that they would pay over the lifetime of their dryer or freezer that they were oblivious of the potential for greater savings.

Gas water heaters, for example, were found to carry an implicit discount rate of 100 percent. This means that in deciding which model was cheapest over the long run, consumers acted as if they valued a $100 gas bill for the first year as if were really $50. Then, in the second year they would value the next $100 electricity bill as if it were really worth $25, and so on through the life of the appliance.

Large Sums After Behavior

Few consumers actually make this formal calculation, of course, or are even well-enough informed about the true differences in energy usage to make entirely rational choices about appliances. But beyond the lack of information, there are clearly bizarre behavioral patterns in evidence.

Some experiments, for example, have shown that the way in which consumers make decisions about money depends a great deal on how much is at stake. Few people are willing to give up $10 now for $15 next year. But they are if the choice is between $100 now and $150 next year, a fact that would explain why consumers appear to care less about many small electricity bills—even if they add up to a lot—than one big initial outlay.

Other economists explain the same phenomena by making an analogy to what the Swiss behavioral researcher Jean Piaget, observed with small children in experiments in the 1940s. Piaget formed clay into two balls that the children agreed were of equal size. Then he rolled one of the balls into a sausage form and, almost without exception, 5- and 6-year-olds would suddenly insist that the balls were no longer equal in size.

According to Piaget, the children were so transfixed by the dramatic change in the clay's dimensions that they were unable to recognize that its mass was preserved.

Are consumers' perceptions of the value of money over time simply examples of the same phenomenon, but on a more sophisticated level? Perhaps, say economists, high discount rates are evidence that consumers are—like the children with the clay—so transfixed by changes in the dimensions of money, either in time or in the size of payments, that they refuse to believe that it retains its original value over time.

Irrational Pay Preferences

These explanations do not, however, account for the full range of discount rates used by consumers. In some cases, consumers appear, for explicable reasons—to have precisely the opposite attitude toward money.

Consider a recent survey of 100 adults, who were asked how they would most like to be paid for a hypothetical six-year-long job: as equal installments over the entire period, as decreasing installments, or with paychecks that started low and gradually increased.

Twelve percent went for identical payments. Another 13 percent chose declining payments, and the balance—76 percent—wanted their wages to increase. The researchers were so baffled by this that they went back and explained to the respondents all the rational reasons why they should want their wages to start high and decrease. For example, they could invest the surplus at the beginning and get six years of interest on it. Also, if they quit during that time they would have maximized their income. Asked again, 69 percent still went for the increasing scale.

In other words, consumers irrationally inflate the value of future paychecks even as they happily discount the value of future electricity bills.

Mr. ANDREWS. Thank you, Mr. Freeman.

We have a vote on, and there will be a 5-minute vote after that vote, after the first vote. Let's take a short recess and reconvene here at 2:45. Mr. Crimmins, we'll take your testimony, and then we'll proceed to questions.

[Recess.]

Mr. ANDREWS. Our final witness on this panel is Mr. Sean T. Crimmins of the Chemical Manufacturers Association. Mr. Crimmins.

STATEMENT OF SEAN T. CRIMMINS, VICE PRESIDENT AND GENERAL TAX COUNSEL, ASHLAND OIL, INC., ASHLAND, KY, ON BEHALF OF THE CHEMICAL MANUFACTURERS ASSOCIATION

Mr. CRIMMINS. Good afternoon, Mr. Chairman. My name is Sean Crimmins. I am vice president and general tax counsel of Ashland Oil, Inc. I am here today representing the Chemical Manufacturers Association. Ashland Oil participates in the chemical business through its Ashland chemical subsidiary which last year had over $2 billion in sales.

Over the past decade, CMA has appeared before many congressional committees to express our interest in environmental issues and to offer the chemical industry's strong support for effective and efficient national programs to enhance environmental protection. Today, we are asking you to consider how pollution control objectives will affect national revenue, trade, and competitiveness policies. We believe how environmental costs are imposed will, to a great extent, determine how disruptive and costly they ultimately will be to the U.S. economy.

The chemical industry is one of the most heavily taxed in the United States. Our effective income tax rate was over 37 percent in 1987, one of the highest paid by any U.S. heavy industry sector. In addition, our industry pays Superfund excise taxes on specific chemicals, excise taxes on chlorofluorocarbons, and the waterway users tax. As the Nation's largest nonenergy user of petroleum and natural gas, we bear added production costs because of direct taxes imposed on petroleum feedstocks.

The major portion of the costs of meeting the mandated environmental standards will fall on manufacturing, which must face foreign competition. New environmental taxes would add to the current costs of meeting these environmental standards. The chemical industry opposes new and industry-specific taxes and especially opposes taxes that would be levied on the production process, and thus impair the competitiveness of U.S.-based manufacturing.

In today's integrated, highly competitive world economy, new environmental taxes that disadvantage U.S.-based production will encourage moving investments and jobs to foreign locations—something we don't want to happen at a time when we are already running large trade deficits. In effect, these environmental taxes would subsidize imports and penalize domestic production.

Under the General Agreement on Tariffs and Trade, it is very difficult to neutralize the negative impact of new environmental taxes on international trade and on U.S.-based production. Very large capital expenditures will be required for new plant and

equipment to meet tightened environmental standards. A recent CMA survey indicated that members expect 14 percent of their new investment in 1990, well over $3 billion, will be spent for environmental purposes. These numbers do not reflect any additional costs of the pending Clean Air Act.

It is important to recognize that capital investment expenditures for environmental compliance normally do not improve productivity. More often, new environmental control equipment increases operating costs and lowers overall productivity and international competitiveness. However, the tax treatment of capital expenditures for environmental purposes is based on the tax policy principle that a capital expenditure produces income over several years, and that the expenditure should, therefore, be recovered over the same period.

The current tax treatment of capital expenditures for environmental improvement is certainly more stringent than tax theory would support. Large new capital expenditures also mean increased income tax costs through new or increased alternative minimum tax liability, and through the allocation of interest expense to foreign source income. The combined costs of meeting mandated environmental standards and new environmental taxes will greatly undermine the competitiveness of all U.S.-based manufacturing, especially the chemical industry.

Environmental cleanup programs, those that repair prior damage, are inherently societal in nature and should be borne ideally through the expenditures of general revenues. To the extent general revenues cannot be used, the least worst approach is to develop a broad-based tax program. A notable example of this type of tax program is the corporate environmental tax adopted in the Superfund Amendments and Reauthorization Act of 1986.

In closing, CMA believes that the United States should continue to be the leader in the worldwide effort for a better, safer environment. But our Nation's ability to pay for an improved environment is dependent in substantial part on maintaining the competitiveness of U.S.-based manufacturing. Tax policies that create additional disadvantages for U.S.-based production that must compete with foreign production will increase the overall cost to the U.S. economy of meeting these environmental goals.

Thank you, Mr. Chairman. I'll be glad to answer any questions.

[The statement of Mr. Crimmins follows:]

STATEMENT OF
CHEMICAL MANUFACTURERS ASSOCIATION
BEFORE THE
COMMITTEE ON WAYS AND MEANS
UNITED STATES HOUSE OF REPRESENTATIVES
ON
ENVIRONMENTAL TAX ISSUES
MARCH 6, 1990.

The Chemical Manufacturers Association appreciates the opportunity to testify in this Committee's hearings to explore the manner in which the Federal tax system can be used to improve our environment.

The Chemical Manufacturers Association ("CMA") is a non-profit trade association whose member companies represent more than 90 percent of the productive capacity for industrial chemicals in the United States and Canada. The U.S. chemical industry is a capital-intensive industry that requires modern technology to maintain and enhance the international competitiveness of U.S.-based chemical production. The industry as a whole spent $21.3 billion in 1989 on new capital expenditures. As a result, the chemical industry remains one of the few bright spots in the U.S. balance of trade, with favorable 1989 net exports of some $16 billion. Most importantly, despite the increasing worldwide competition the U.S. chemical industry provides jobs for about 1.1 million American workers.

Over the past decade CMA has appeared before many Congressional Committees to express our interest in environmental issues and to offer the chemical industry's strong support for effective and efficient national programs to enhance environmental protection. We welcome this Committee's hearings to focus on all aspects of the Federal tax system and environmental policy. It is important that this Committee--with its jurisdiction over both Federal tax and trade legislation--consider pollution control objectives in the light of national revenue, trade and competitiveness policies.

The chemical industry is one of the most heavily taxed industries in the United States. Our effective income tax rate was over 37 percent in 1987, one of the highest paid by any U.S. heavy industry sector. In addition, we pay Superfund excise taxes on specific chemicals, the new excise taxes on chloroflourocarbons (CFCs), and the waterway users tax. Moreover, the chemical industry pays substantial amounts to comply with Federal, state and local environmental regulations and requirements. In a recent MA-200 study, the Bureau of the Census found that in 1986 the U.S. chemical industry had total pollution abatement gross annual costs of $2.654 billion. Finally, as the nation's largest non-energy user of petroleum and natural gas we also bear substantial increased production costs because of direct taxes imposed on petroleum feedstocks.

The chemical industry supports the objective of providing a more healthful environment. It is important for Members of the Committee to recognize the existing costs of existing pollution control and the new costs associated with pending legislation. Estimates of the annual costs to industry that would be added by the clean air legislation now before this Congress alone range from $19 billion to over $100 billion annually. Other environmental measures almost certainly will add to pollution control costs.

The bulk of these costs initially will fall on U.S. manufacturing, the sector of our economy that must face international competition and the sector that experienced huge trade deficits during the 1980s. In an integrated, highly competitive world economy, any manufactured good--no matter how sophisticated--can be produced in any number of countries. Foreign competition in manufactured goods is strong. In this economic context, when U.S. manufacturers incur costs that do not apply to their competitors, those costs cannot always be added as higher prices.

We must recognize that it is the American people--not U.S. industry--who will, in the end, pay the environmental costs through higher consumer prices, increased imports, lost jobs, and additional dollar depreciation that will worsen U.S. terms of trade, raise the price of imports, and lower U.S. living standards.

The objective of these hearings is to explore the manner in which the Federal tax system can be used to improve our environment while preserving economic growth and opportunity. How environmental costs are imposed will to a great extent determine how disruptive and costly they ultimately will be to the U.S economy. Moreover, U.S. tax policy will be an important factor in determining the overall burden of added environmental costs.

We are concerned that the Congress is considering new specific taxes on industry to address environmental goals. In the recently published Reducing the Deficit: Spending and Revenue Options, the Congressional Budget Office identifies four new specific environmental taxes as means to achieve additional revenues.

These environmental taxes purport to embrace the "polluter pays" concept and include various user fees, charges and excise taxes imposed at the manufacturing level. The political attraction of these taxes is that they are not paid immediately and visibly by the general public, but would be initially borne by the producer of specific products. A theoretical justification for these taxes is the supposition that the cost of pollution control is a cost that should be included in the cost of production and that a better allocation of resources will result by initially assigning those costs to the producers, even though, in the end, the consumer will bear them.

Excise taxes and other charges at the consumer level may distort consumption patterns and change levels of consumption. They do not, however, undercut U.S.-based production as long as imported products bear the same taxes. Industry and product specific taxes imposed on production are particularly bad. In today's integrated, highly competitive world economy, environmental taxes on U.S. industries that face foreign competition create disadvantages for U.S.-based production and encourage moving investment and jobs to foreign locations. In effect, these environmental taxes subsidize imports and penalize domestic production.

The U.S. economy cannot afford additional penalties on U.S.-based production. Our very large trade deficits have been manifested primarily in manufactures trade. From 1981 to 1987 our manufactures trade balance deteriorated by $147 billion, $17 billion more than the $130 billion decline in our total merchandise trade balance. Similarly, the improvement of our trade and current account balances must also come from improved manufacturs trade performance. There is no other source of major improvement. In short, the United States cannot run large manufactures trade deficits and pay its way in the world economy.

The environmental costs of both improving future production and redressing past damage should be borne as broadly as possible. U.S. production in earlier years benefitted all Americans. To the extent that today's environmental costs stem from earlier times, all Americans must now bear those costs. Attempting to impose yesterday's costs on today's U.S.-based production undermines our international competitiveness. To do so at this time--in the face of already large U.S. trade deficits--is the economic equivalent of "shooting oneself in the foot."

There have been suggestions to neutralize the effects of some industry- specific taxes on U.S. international competitiveness by providing rebates on exports and taxing imports to the same extent as taxes imposed on U.S. products. There are several problems in these procedures.

The first is whether they will be valid under GATT (General Agreement on Tariffs and Trade). Another is that a series of narrowly-based product taxes can distort the efficient allocation of resources.

Even if adjustments can make the tax "trade neutral" with respect to the product taxed, this trade neutrality does not extend to downstream products. That is, foreign-based production of an end product made from chemicals not subject to U.S. tax would not bear the tax that would be included in U.S.-based production of that product. Moreover, such taxes require the development of complex collection systems and procedures and impose administrative burdens on Government and on the affected industries. The problems of narrow product-specific taxes are overwhelming. They should be avoided.

In this respect, the Committee should consider the instances in which Congress has attempted to mitigate the negative impact of specific excise taxes on trade competitiveness of U.S.-based production and the difficulty of making appropriate adjustments. For example, the Superfund tax on imported substances extends the impact of the Superfund taxes to a list of 50 additional imported chemical substances. The amount of the tax is equal to five percent of the landed value of the imported substance or the amount of Superfund tax that would have been paid if the substance had been manufactured in the United States. Consequently, imports would never be required to pay more than the amount of tax a U.S.-based manufacturer would pay if the substance was manufactured in the United States. Most importantly, this provision also provides for the rebate on export of Superfund taxes paid on chemicals used in U.S. production of these substances. Thus, it ensures that Superfund taxes will no longer be a factor in whether U.S.-based production of the 50 listed substances can compete with foreign products in both U.S. and world markets. It does not, however, provide tax neutrality for U.S.-based production of downstream products that use these 50 chemicals.

We are also concerned that the increased use of environmental taxes by the Federal government would create a maze of individual product and industry taxes that would become an administrative nightmare--and a costly one--both for industry and for the Internal Revenue Service.

Undoubtedly, many environmental tax proposals reflect deep and genuine concerns over environmental problems. Some reflect, however, the growing frustration of the Congress in securing adequate revenues to support worthy legislative programs within the Gramm-Rudman-Hollings limitations. We understand those frustrations, but we also must recognize the cumulative effect of a series of uncoordinated user fees and excise taxes to U.S.-based manufacturing. The impact of narrowly imposed taxes can be severe on a particular industry, its suppliers and customers and can impair efficiency of our national economy and its international competitiveness.

Increased environmental costs will come in essentially two forms. Environmental legislation will require large capital investment expenditures for new plant and equipment to meet more stringent standards. In addition, operating this new equipment and complying with the higher environmental standards will increase day-to-day operating costs.

Very large capital expenditures will be required for new plant and equipment to meet environmental standards. These costs are already large, but they will grow much larger. Indeed, a recent CMA survey indicated that our members expect 14 percent of their new investment in 1990--well over $3 billion--will be spent for environmental purposes. This estimate, of course, does not reflect the additional costs of the pending Clean Air Act and other environmental legislation that may also be considered in this Congress.

New expenditures for environmental compliance normally do not improve productivity; more often these expenditures lower overall productivity and international competitiveness. Under present law these capital costs are recovered over a period of years. The underlying tax policy principle is that a capital expenditure produces income over several years and that the expenditure should, therefore, be recovered over the same period. This principle has merit when the capital expenditure increases production or improves the product, but has none when those expenditures do not achieve these results. Indeed,

these expenditures generally increase operating costs. Accordingly, the tax treatment of these expenditures to meet government-mandated environmental requirements is already more stringent than tax theory would support.

The tax costs of environmental expenditures are substantial. For example, it should be noted that capital expenditures for pollution equipment have to be depreciated over the full applicable life for new investment, even though the expenditure relates to assets that had been in use for many years. In addition, these expenditures may also mean increased tax liability for many capital intensive companies because of the alternative minimum tax and allocation of interest to foreign source income. Thus, current tax law already exacts a very substantial fee on these expenditures from capital-intensive industries. To impose additional specific environmental taxes on these manufacturers would significantly reduce their financial ability to achieve Congressionally mandated environmental standards.

Adopting specific new environmental taxes can only compound the effects of environmental costs on U.S. international competitiveness, with the resulting loss of jobs in U.S.-based production. We believe that whatever public funding is needed for environmental programs should be broad-based. These programs are inherently societal in nature and should be born ideally through the expenditure of general revenues. To the extent general revenues cannot be used, we believe the "least worst" approach is to develop a broad-based tax program. A notable example of which is the Corporate Environmental Tax adopted in the Superfund Amendments and Reauthorization Act of 1986 (SARA) (Section 59-A of the Internal Revenue Code.)

Up to now we have discussed only the impact of industry specific charges, taxes and user fees. The tax impact of complying with environmental legislation and regulations, however, goes much farther than this. These greatly increased environmental costs will exacerbate existing income tax problems of capital-intensive industries. Example problems include increased allocation of interest expenses against foreign source income and increased minimum tax exposure.

The current level of chemical industry pollution control expenditures is substantial. Dependent on the terms of the final bill, toxic air provisions of the pending Clean Air Act alone are likely to add $3.5 billion per year to chemical industry costs during the first six years and increased costs thereafter as the residual risk rules of this bill become effective. These increased expenditures, particularly if combined with a downturn in the economy, are likely to subject many chemical companies to minimum tax liability. Finally, it is unlikely that these minimum tax and foreign tax costs can be passed on to customers since not all competitors will face these added tax costs.

We recognize that new environmental taxes could provide additional revenues. But we believe such taxes are inappropriate when the additional competitive and trade disadvantages they would create for U.S.-based manufacturing, already hard hit by the added costs of environmental legislation, are considered.

CMA supports the goals of legislation to improve and to protect our environment. We believe that the U.S. should continue to be the leader in the world-wide effort for a better, safer environment. But our nation's ability to pay for an improved environment is dependent in substantial part on maintaining the competitiveness of U.S.-based manufacturing. Tax policies that create additional disadvantages for U.S.-based production that must compete with foreign production will increase the overall cost to the U.S. economy of meeting these environmental goals.

Mr. ANDREWS. Mr. Crimmins, I want to be sure I understand what you just said. You are not suggesting, are you, that the existing Superfund law and the ability of the Government to prosecute polluters, to pay for the cleanup by a specific tax is not good public policy?

Mr. CRIMMINS. No, sir, I am not.

Mr. ANDREWS. And so when you say that the cleanup should be borne out of the general revenues by all the taxpayers, you are not suggesting that the Government shouldn't aggressively go after those companies or people that have caused the toxic waste sites?

Mr. CRIMMINS. That's correct, Mr. Chairman. We are not proposing that.

Mr. ANDREWS. Thank you.

I would like to call on first the gentleman from Texas, Mr. Pickle.

Mr. PICKLE. Thank you, Mr. Chairman.

Mr. Freeman, last Saturday I happened to dedicate a solar energy plant at 3M Manufacturing in Austin, a little generating plant that potentially will deliver power to the city at peak hours and currently helps light the parking lot at 3M.

The Federal Government, the State, the city of Austin, and 3M have invested a sizable sum to operate a very challenging enterprise, and we were all very impressed with it. Now, none of us know exactly how that is going to work. But I noticed in your testimony you make no mention of solar energy. Is that a source of potential power? Is it something just in the future? It is clean and it is free, except for the installation of it. But do the power entities, whether it is public power, private power, ever look toward solar energy as a source of any meaningful amount of energy?

Mr. FREEMAN. Mr. Pickle, solar energy is the most underrated, underinvested, neglected source of energy under the Sun. I mean, this country and this generation of people may very well go down in history as being too smart to harness what is right directly in front of our noses which comes down to the Earth free of charge every day. We have so many scientists that want to break the atom in two and develop these terribly sophisticated technologies, such as fusion power and others. That seems to be challenging. But solar energy, which is a terrific source of energy and which can be harnessed in a fairly benign way, has been neglected.

The plain truth of the matter is that we had a modest research program started in the late 1970's on solar power, and it was abandoned in the 1980's because gasoline and oil prices, you know, went down and the energy crisis was declared over by certain people.

The truth of the matter is that solar power needs to be harnessed and developed, and this committee, I think, can play a critical role in doing so. The technology, despite the lack of Government effort, has advanced. There are a few hardy survivors such as the Texas company that developed those mirrors there that you dedicated. It is not economic at the moment because the curves haven't crossed as yet. You put a reasonable value on the damage to the environment that is being done by other sources of energy, and all of a sudden you have got a solar breakthrough. But some form of tax credits, incentives, or perhaps emission fees on the pollutants will give you a solar breakthrough.

There are solar powerplants in southern California today that are producing electricity for the Southern California Edison Co. at fairly economical prices. The photovoltaic cell technology is being developed. If this country does not, through its tax policy or otherwise, encourage the development of solar power, we are going to again find the Japanese coming over here and putting photovoltaic cells on our roofs of our houses in developing solar power.

There is a trillion dollar market in the world in the next 50 years for solar devices.

Mr. PICKLE. Well, Mr. Freeman, if that is so, I wonder why the Lower Colorado River Authority or my rural electric cooperatives don't put more emphasis on solar and make it part of the operations, too. It seems to me that in rural areas they could use it to great advantage. I think we are going to do it, but we are slow in coming along.

Mr. FREEMAN. Yes, sir, and part of the problem is the temporary low price of petroleum, temporary I think, because it's going back up.

Mr. PICKLE. Let me ask you one other quick question. You mentioned that you would suggest a rebate to purchasers of these electric cars, less than the $2,000 or 25 percent. What is the cost of an average electric car now? And what would it be if you reached the 100,000 level that you say you'd have to, to make it practical?

Mr. FREEMAN. Well, the president of General Motors at a press conference recently unveiled a conceptual car that can go far enough and can go fast enough, that it would be an excellent car. His testimony was that at the current price of gasoline and the current technology in the battery, it is about twice as expensive per passenger mile as a gasoline-powered car. A combination of increased gasoline prices, development of a somewhat better battery, and a tax credit would develop the market.

There are a lot of people that will buy an electric car even if it costs more because it could make an environmental statement. A hundred thousand a year is what is needed to get them mass produced.

Mr. PICKLE. Well, let's say an average automobile costs, say, $15,000 or $10,000, whatever it might be. Does that mean an electric vehicle would cost $20,000 or $25,000?

Mr. FREEMAN. Between $20,000 and $25,000.

Mr. PICKLE. But if you got up to the $100,000 mark, do you think the price then would come down appreciably?

Mr. FREEMAN. Yes, sir. And in the meantime, the price of gasoline will go up some. Those curves will cross, but they will never cross without kind of a jump start.

Mr. PICKLE. I noticed you said in your testimony—I believe you said this—that it will cost a little money if you give those credits. But if it did in order to go ahead and give these electric credits or rebates, that we put an additional tax on these gas guzzlers, are you suggesting that we the committee do it, or can you handle that——

Mr. FREEMAN. Yes, sir. I think this committee wants to have a revenue-neutral package. I was trying to be helpful.

Mr. PICKLE. And you would take it out of the gas guzzlers.

Mr. FREEMAN. It seems to me they both go in the same direction, the cutting down on pollution and cutting down on oil imports.

Mr. PICKLE. I will tell them that, then.

Mr. FREEMAN. Thank you.

Mr. ANDREWS. Mr. Mitchell, while enactment of capital formation incentives such as those you described in your testimony today would have the effect of reducing the rates paid by the customers of your members, wouldn't they also have the same effect of increasing the taxes paid by all taxpayers? I mean, isn't that exactly what the Tax Reform Act was supposed to put a stop to?

Mr. MITCHELL. Yes, Mr. Chairman. To the extent that any assistance like I have talked about in this testimony does take place, it would, in effect, reduce the revenue to the Nation as a whole. The proposition, of course, is the tax law has been used for many purposes, for social purposes, for many years, and this is clearly a question of national interest, of national concern. That's why we think that that particular action is appropriate.

Mr. ANDREWS. Mr. Fay, if you had to choose or you could choose between a regulatory approach to the clean air problems of our country and an excise tax approach, which would your membership prefer?

Mr. FAY. I think right now, Mr. Andrews, we are used to a regulatory approach. We have worked with the regulatory approach, and I think we would prefer the regulatory approach to a tax approach.

Mr. ANDREWS. Mr. Freeman, you suggested a rebate to the purchasers of electric vehicles equal to the lesser of $5,000 or 25 percent of the cost of the vehicle. What is the current cost of an electric vehicle? And what would be the expected cost if the 100,000 per year you mentioned were ever achieved?

Mr. FREEMAN. The problem is that there aren't any electric vehicles in the automobile showrooms. There are conceptual cars, and there are cars at press conferences. It is a chicken and an egg situation. In order to get the price down to something that is economical, one needs to have mass production. And people in private enterprise are reluctant to take the lead and the risk. The tax credit is designed to help create a market and phaseout within a 10-year period once that product gets mass produced.

The first cost of the electric car is just part of it. The problem is with the battery life being short; the running costs might be higher than the present cost of gasoline. But at the moment, the per-mile cost would be almost twice what the current costs of gasoline are. But you can see that if you had the price of gasoline comparable to what we have in Europe, with a major tax on gasoline, all of a sudden the electric car becomes economical.

Mr. ANDREWS. Mr. Crimmins, elaborate, if you will, a little bit on your comment that increasing the existing Superfund tax is going to make us in some way less competitive than we are now with foreign companies.

Mr. CRIMMINS. Mr. Chairman, when we talk about competitiveness as a U.S. cost that is imposed on the manufacturing sector here that is not imposed on a foreign competitor, it is pretty simple to see that if you keep his costs untouched and increase the costs in

this country, his product sells and he makes more money, or we make less, depending on pricing.

Any solely U.S.-based cost which is imposed on the manufacturer instead of the consumer is detrimental to our ability to compete in the world market.

Mr. ANDREWS. Thank you. I thank all of you very much.

We would like the next panel to please come forward. Our final panel today consists of Roger Dower with the World Resources Institute; Michael McCloskey with the Sierra Club; and Sharon Newsome with the National Wildlife Federation.

If we could, let's start to my right, Mr. McCloskey, and then go across the witness table. Mr. McCloskey.

STATEMENT OF MICHAEL McCLOSKEY, CHAIRMAN, SIERRA CLUB

Mr. MCCLOSKEY. Thank you, Mr. Chairman.

We are pleased that this committee is looking at long-range tax strategies dealing with environmental questions. I will only offer some summary comments with respect to my full statement, which I presume will be in the record.

In general, we oppose subsidies for commercial producers except where there are clear social benefits. In this context, we can support continued tax credits for solar, wind, and geothermal energy. In general, we favor the use of tax mechanisms to advance environmental goals.

In that context, we do think this committee should focus on the need to set these taxes at the appropriate levels, depending on whether the purpose is to abate pollution, in which case the rate must be high enough—that is, higher than the abatement costs—or whether it is to cause some burdensome activity to be reduced, as with energy use; or whether it is to raise funds for environmental repair programs that the Government must mount; or to raise revenues for the general Treasury.

I should also say that we favor pollution taxes as a supplement to standard pollution regulatory programs, not as a replacement. More specifically, we favor the following kinds of environmental taxes: pollution taxes, such as taxes on SO_2 and NO_x and volatile organic compounds; and vehicle taxes. We also favor various taxes on aspects of water pollution such as biochemical oxygen demand, on ground water discharges, and on dredge spoils.

We further favor various types of taxes on fuels, alternatively either a tax on all oil that is both produced and imported into the United States or a gasoline tax or, better yet, a general nonrenewable energy tax or a carbon tax. We have to pick the best one there.

Also, we do favor increasing the gas-guzzler tax and initiating a rebate for automobiles that are highly energy and fuel efficient. We also favor various kinds of transportation-related taxes, such as recovering 100 percent of the costs that are imposed by trucks that use public highways. We favor heavier taxes on barges using public waterways, user fees on billboards along public highways, as well as taxes on parking that is provided by employers.

We also favor various taxes to discourage depletion of valuable resources, such as taxes on virgin materials and minerals sever-

ance tax, taxes on imported tropical woods, and on removal of domestic old-growth timber.

We also support tax incentives that encourage recycling, such as Representative Richard Schulze's bill that would impose a tax on those major newspapers that don't use at least 50-percent recycled newsprint.

Finally, let me say how important we think tax incentives can be in the global context in raising the sums necessary to cope with the global warming problem. We think this problem can only be addressed if large sums can both be raised by the industrialized countries and shared with other nations to reduce emissions of greenhouse gases. A carbon tax such as that suggested by the Congressional Budget Office could do this.

Thank you.

[The statement of Mr. McCloskey follows:]

STATEMENT OF MICHAEL McCLOSKEY, CHAIRMAN, SIERRA CLUB

Mr. Chairman, my name is Michael McCloskey. I am here representing the Sierra Club which has long been interested in the use of tax policy to protect the environment. We congratulate you on scheduling this hearing to look at long-term strategies for using tax policy for this purpose.

Tax policy has been used for many years to encourage industrial activities and the exploitation of natural resources. We are pleased this committee is now seriously considering how such policies might be used to curb some of the adverse environmental effects of this kind of economic activity. Protection of the environment is now a goal of our society on a par with many others and deserves to be advanced through all tools which have proven effective, including tax policy. We applaud the good start you made last year with the tax imposed on CFC's which destroy the stratospheric ozone layer. We hope you will now extend this idea to other areas, many of which were identified in the list of topics announced for this hearing.

At the outset, let me make it clear that we see the rationale for use of tax policy for environmental purposes as not being rooted primarily in raising funds for the general treasury. We see tax policy vis a vis this social end as being used to provide incentives and disincentives--as appropriate--to protect the environment and to capture the costs to society of having to cope with the effects of detrimental environmental conduct. Society may have to repair a damaged environment through government action, or bear unwanted burdens for which it should be compensated. In this sense, taxes on environmentally undesirable conduct can be viewed as user fees. And the imposition of such fees tends to internalize costs with the originator of the problem, who then has a greater incentive to reduce the impact and to raise product costs so that they reflect total social costs.

If these tax policies work in sending the right signals to producers, the magnitude of the undesirable conduct may diminish and the flow of revenues dwindle. It is for this reason that we think such tax tools should not be relied upon in the long-run as a secure source of revenues. Obviously we also want to see the tax set high enough to make it cheaper to abate the pollution than to pay the tax, and this adds to the uncertainty of tax receipts over time. We also think that portions of the revenues should be earmarked for environmental purposes. This is particularly the case where remedial action must be financed by the government or the government provides facilities used by the operation in question. In connection with the global warming challenge, we think it is critical to earmark a major share of the funds raised from various taxes which might be levied for international action to combat the problem. In this case, the new tax revenue stream is crucial because developing countries are too poor to do the job unaided.

While some have suggested using pollution taxes as a substitute for the standard regulatory approach, we do not favor that. Instead, we see such taxes as a supplement which can extend the level of protection beyond mandated standards and fill in around them. The CFC tax shows how tax policy can be used in such a supplementary way as it hastens the phase-out of CFC's which is mandated in the future.

Now let me address specifics. We have associated the Sierra Club with the considerable tax recommendations compiled in the Blueprint for the Environment report. Because they are spelled out in that report, which has been provided to you, I will only summarize our position on the many items in it and add a few others.

Energy and Air Quality.

With respect to environmental problems associated with the issues of energy and air quality, we favor the following taxes.

(1) A tax at the rate of .45 or more per pound on SO2 and Nox which are emitted from utility and industrial boilers, with a considerably higher tax for those boilers without operating monitoring devices (calculated by fuel content). This is at a level which is felt to be in excess of the costs of abatement. OTA estimated that a tax at this level would reduce emissions of these gases by 6-10 million tons, which is a substantial reduction--particularly if it comes on top of the controls on acid rain which we hope will be included in the new Clean Air bill.

(2) We also favor some kind of new tax on fossil fuels. The Blueprint report posed an additional tax on gasoline, rising by ten cents per gallon each year over a ten-year period, to finally reach the $1 level. At one time, we proposed a tax on all crude oil either produced in this country or imported into it. The tax would be tied to the price of oil in mid-1985 and would have kept oil at the higher prices of that time.

Project 88 has proposed a 3% ad valorem tax on all non-renewable energy, covering coal, oil, natural gas and uranium. And others have talked of a tax keyed to carbon content to reduce CO2 emissions. We have no strong choices among these; all would provide needed incentives to reduce energy use and all of the many associated environmental problems. However, some provision should be made in this connection to cushion the impact of higher fuel prices on people with low incomes, such as through rebates.

(3) We also favor increasing the size of the so-called gas guzzler tax on the least efficient automobiles and adding a tax credit for those buying highly efficient automobiles. These measures will hasten the trend toward higher average levels of fuel economy (with a 45 mpg goal).

(4) Moreover, it is time to re-orient tax incentives to discourage single vehicle commuting. Taxes should be eliminated on incentives provided by employers to get employees to use mass transit (such as free transit passes) and to use van pools (e.g., those provided by employers). Instead, taxes should be imposed on free parking spaces provided by employers.

(5) Finally, the remaining subsidies afforded to the oil and coal industries should be eliminated, such as the write-off of drilling and exploration costs. These cost the Treasury hundreds of millions each year and cause fossil fuels to be mis-priced; they would be inconsistent with the new fossil fuel taxes we have proposed.

(6) The Sierra Club does not support any legislative or regulatory action (including subsidies) that is intended to favor general nationwide use of a specific fuel. We do not feel that alternative fuel use is a substitute for the tightest possible auto emission standards, especially since these programs are experimental in nature. In general, we believe that conservation is preferable to fuel subsidies in terms of oil saved per dollar spent, capitol investment required, jobs created and environmental effects.

However, if the Congress enacts an alternative fuels subsidy program, it should be very limited in terms of the equipment and activities qualified for the subsidy. In addition, it should promote only the very cleanest burning fuels with the top performance standards.

(7) The Sierra Club supports the extension of federal tax credits for solar, wind and geothermal energy projects. These industries greatly benefit the nation's energy and environmental policies, and they should be encouraged to expand. In order to ensure the long-term stability of these industries and to expand their market opportunities, the Congress should consider longer extensions than the recent nine month term. In the case of geothermal in particular, specific projects should be evaluated for environmentally responsible development.

Other Pollution Taxes

(1) Those who release effluents and other pollutants -- within legal limits--into groundwaters should help pay the costs of remediation and protection of this vital resource. The Blueprint report suggested a user fee system for groundwater producing $600 million annually in revenue.

(2) Those legally permitted to dump dredge spoils in offshore waters should also pay an appropriate user fee since this activity is not without adverse environmental effects. A fee at the rate of $2 per cubic yard has been suggested.

Recycling/Re-use

Various incentives for recycling have been suggested. First of all, subsidies which encourage use of virgin materials should be ended, such as for below-cost timber sales in the national forests. Some have suggested a virgin materials tax instead. And a number of members of Congress have introduced bills with respect to mandatory deposits on beverage containers which encourage re-use of glass bottles, which are in excess supply. Representative Richard Schulze of this committee has introduced a bill, which deserves to be encouraged, which is designed to stimulate greater use of recycled newsprint. Under it, major newspapers not using 50% recycled newsprint after five years would be subject to a 5% gross receipts tax.

Depletion

In addition to a tax on virgin materials such as wood, the authors of the Project 88 report suggested a minerals severance tax. They suggested first focusing on eliminating the tax differential between minerals taken from public lands and private lands. This would raise $120 million annually. The Blueprint report suggested a 2% transfer tax on products made in whole or in part from tropical woods. The proceeds should be used to finance a new treaty on biological diversity. In connection with proposals to restore capital gains tax treatment to revenues gained from timber land, care also should be taken to make sure that any incentives rationalized in the name of conservation are earned, in the sense of assuring that timber is actually grown to maturity.

Finally, with respect to vanishing resources such as old-growth redwood and Douglas Fir forests, it may well be appropriate to consider imposing a depletion tax to slow the rate of decimation.

Miscellaneous

A number of other fees have been proposed which we believe have merit:

--trucks over 60,000 pounds should pay a weight-distance tax which represents 100% of the costs of maintaining highways for their use. Even this tax may not be enough to offset the damage done to the environment and our highways by heavy trucks. Energy consumption, air pollution and land use patterns are all affected by federal taxation of freight transportation systems. Rail transportation has significant environmental advantages over long distance trucking.

--taxes should be imposed on billboards so that they pay for the value of the public highways on which they capitalize;

--and a 10% excise tax should be imposed on various outdoor-related products (such as binoculars) to generate funding for the unfunded Non-Game Wildlife Fund to assist states.

And the provision which allows deduction of interest on mortgages on second homes should be eliminated; these developments usually bring a host of environmental problems in their wake.

In conclusion, we would encourage this committee to mount an ambitious program of users fees and taxes to encourage better environmental conduct. Such a program could make a major difference, introduce new energy into lagging efforts, and build experience with the efficiency of this approach. We would hope that the proceeds would be split between being plowed back into remedial efforts and the general treasury. The public will be much more accepting of such efforts if the environment is a major gainer, not just the Treasury.

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Mr. ANDREWS. Mr. Dower.

STATEMENT OF ROGER DOWER, DIRECTOR, CLIMATE, ENERGY, AND POLLUTION PROGRAM, WORLD RESOURCES INSTITUTE

Mr. DOWER. Thank you, Mr. Chairman. I am Roger Dower, director of the Climate, Energy, and Pollution Program at the World Resources Institute, a not-for-profit public policy research organization focusing on international and global environmental issues.

I want to thank this committee for inviting World Resources Institute to testify today, and I want to commend the committee for holding these hearings. There is much this committee can do for environmental protection and economic productivity. By investigating the relative merits of environmental taxes, you are taking an important step towards rationalizing the Federal tax system and integrating economic and environmental policy.

As you know, the revenue base of this country is heavily tilted towards taxes on individual and corporate incomes. As the Congressional Budget Office acknowledges, higher tax rates on individual and corporate incomes reduce incentives to work and save. While these taxes do raise revenues and while some of these taxes have very desirable equity dimensions, they do little to improve our economic performance.

Environmental taxes, however, set at levels that reflect the social costs of pollution, could improve the overall efficiency of the U.S. economy, raise substantial revenues, and shift the economic burdens of our current tax system. Taxing productive activities such as savings, income or labor, while leaving unproductive outputs such as pollution to other control mechanisms, misses a tremendous opportunity to improve our economic welfare and achieve cost-effective environmental quality. The economic advantages of environmental taxes exist regardless of whether the taxes are used to reduce the deficit, to offset other less desirable or effective tax programs, or to fund new programs.

I think you have heard today, and will hear over the course of your hearings, many interesting and useful proposals for environmental tax strategies. Environmental taxes can be designed to supplement existing regulatory programs, as I think we have heard, or to address emerging environmental issues that are not yet subject to regulatory controls.

An interesting application of environmental taxation that falls into the latter category has been mentioned by a number of the earlier panelists. It involves a tax on the carbon content of fossil fuels—a carbon tax—as a method of reducing the risks of accelerated greenhouse warming. Global carbon dioxide concentrations in the atmosphere are projected to double by the next century. The economic and environmental risks from this doubling in terms of rising global temperatures are estimated to range from 3 to 8 degrees Fahrenheit, and these risks are very real. While the United States cannot solve this problem alone, neither can the rest of the world tangibly lower these risks without our participation.

The Congressional Budget Office, in its annual list of options for reducing the deficit, provides the broad outline of a carbon tax that might stabilize emissions of carbon dioxide over a 10-year period.

At these levels, a carbon tax would provide a cost-effective mechanism for achieving the President's stated goal of stabilizing CO_2 emissions as quickly as possible. As additional information becomes available on the benefits and costs of reducing the risks of global warming, the carbon tax rates could be modified to achieve different policy goals. Already, at least two European countries have actually adopted carbon tax programs to reduce their own CO_2 emissions.

A carbon tax would also generate substantial revenues. Again, according to the CBO, a CO_2 stabilization tax might result in revenues of around $163 billion over a 5-year period. As with any tax strategy at this level, a carbon tax would be associated with temporary economic losses as the economy shifts to a less energy-intensive and more economically efficient path. Programs being considered by this Congress and proposed by the administration to cope with the risks of global warming—most notably increased investment in energy efficiency technologies—could be designed to help ease these impacts.

Like other tax strategies, a carbon tax would also impose special burdens, or at least different burdens, on various industrial sectors, geographic regions of the country and perhaps certain income groups. In this context, it may be appropriate to evaluate offsetting tax policy changes, even though the need to reduce the deficit may be a limiting factor. For example, a number of earlier panelists have raised the issue of competitiveness damages that may result from environmental taxes. While I am not a trade economist, nor am I an expert in GATT, it is my understanding that our competitive position is much more determined by domestic macroeconomic conditions here and abroad.

One of the most important issues we should consider in terms of a package of environmental taxes and related offsetting tax policies are efforts to reduce internally cost of capital and rationalizing exchange rates and encouraging investment in R&D. These efforts may be much more effective mechanisms for increasing competitiveness than artificially holding down the price of energy.

In conclusion, Mr. Chairman, environmental taxes offer an exciting opportunity for this committee to make significant inroads in deficit reduction and provide a more efficient and productive economy. I hope that as a result of these hearings, we will all come to see environmental taxes as more than a passing fancy, but an important ingredient in preparing this country for the 21st century.

Thank you.

[The statement of Mr. Dower follows:]

USE OF THE FEDERAL TAX SYSTEM TO IMPROVE THE ENVIRONMENT

by Robert Dower and Robert Repetto
Directors of Research in Energy Policy and Economics
World Resources Institute, Washington, D.C.

TESTIMONY OF ROGER DOWER
WORLD RESOURCES INSTITUTE

INTRODUCTION

It is widely recognized that our current U.S. tax system causes a significant decrease in economic efficiency. Taxes that fall on labor earnings discourage labor force participation and those that fall on capital earnings discourage savings and investment. Thus, the traditional American virtues of hard work and thrift are penalized. Over time, lower rates of savings and labor force participation reduce vital income and economic growth. Tax rate variations also distort the allocation of investment and effort among sectors.

Of course, purely lump-sum taxes are impossible, and all tax systems result in some economic burdens. Even so, the size of aggregate economic losses from tax-induced distortions is a matter of concern. The total efficiency cost of the U.S. tax system has been estimated to be between 4 and 7 percent of GNP.[1] In current dollars, this amounts to about 200 to 350 billion dollars per year. Most of these losses are attributable to personal and corporate income taxes. At the margin, the efficiency costs of raising additional revenues from incentive-distorting taxes is even steeper. Estimates place the efficiency loss from marginal increases in tax revenues from the present system at 15 to 45 cents for each extra dollar collected. Reducing these burdens has motivated previous and ongoing efforts to simplify and reform the tax code.

Today's hearing, on the possibility of using the tax code to protect the environment, is a step toward reducing the economic burden of the tax system. By taxing the polluting activities which generate economic costs through environmental degradation, economic efficiency can be strengthened. Pollution taxes also help correct the well-known failure of markets to reflect the costs and profit-loss calculations of the polluting firm or household.

Shifting the tax base so that taxes fall less heavily on savings and work, and more heavily on environmentally damaging activities, pays double dividends in economic efficiency. Every dollar taken off the personal or business income tax pays a 15 to 45 percent dividend in increased economic welfare. If the tax loss is made good by a dollar levied on polluting activities, there is a further dividend in the form of reduced environmental damages and regulatory costs. This additional dividend is by no means negligible. The United States currently spends about 100 billion dollars, 2 percent of GNP, on pollution abatement, waste disposal, and environmental regulation. It is widely conceded that the current "command-and-control" regulatory system is administratively burdensome on both industry and government, and results in an inefficient distribution of abatement responsibilities among pollution sources. In addition, it is ineffectual in coping with the innumerable "non-point" discharges by households and small enterprises that form an increasing fraction of all pollution.

Despite these expenses, environmental degradation from the remaining emissions impose economic costs estimated at from 30 to 100 billion dollars per year, 0.7 to 2.0 percent of GNP, about equally split between health and other damages. These estimates do not include potential future losses from climate change and other large-scale atmospheric disturbances linked to emissions from fossil fuels and industrial processes.

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[1] This and following estimates predate the 1986 tax reform act and hence probably overstate current excess burdens, particularly those of the personal income tax.

Compared to current regulatory approaches, taxes on environmentally damaging activities can stimulate far-ranging changes in consumer behavior, product designs and industrial processes. More importantly in the long run, these economic instruments provide more effective incentives for waste-reducing technological changes than do command-and-control regulations. The breadth of environmental pressures requires these broad and continuous technological responses. In the past, environmental taxes have been viewed with suspicion by both business and environmental interests. While generally in favor of the flexibility offered by such economic approaches to environmental management, industry has objected to the extra cost of charges levied on emissions that fall within established environmental standards. Applying environmental taxes in a revenue-neutral way, reducing other business taxes commensurately, addresses this concern.

Some environmental groups have resisted the implication that polluters can "buy off" their responsibilities for environmental clean-up by paying a tax. However, that perspective is changing in the face of widespread risks to the global environment that require abatement action on a broad front. The concept of "sustainable development" rests on the idea that economic progress can be reconciled with environmental protection if, and only if, the need for resource efficiency and environmental protection are fully integrated into the decisions of producers and consumers throughout the economy. Environmental taxes are a key component of a sustainable future whether the revenues are used to reduce the deficit, find new programs, or offset less desirable federal taxes.

ENVIRONMENTAL TAXES AND ECONOMIC CONSIDERATIONS

There is a wide range of environmental problems that could be addressed through the appropriate use of environmental taxes. For example, the Congressional Budget Office (CBO) provides revenue estimates for air pollution and water pollution tax options. In general, these problems may fall into one of two classes. The first set of environmental targets are those pollutants that are already subject to some form of regulation at the federal, state or local level. For these environmental taxes might be viewed as substituting for current command and control regulatory strategies or supplementing those strategies and reinforcing the economic incentive to reduce pollution. The size of the tax and it revenue potential are, of course, a function of which view is adopted. A second class of environmental target might be those pollutants for which no regulatory program is in place. The CBO analysis of a carbon tax option to limit CO_2 emissions is an example of the latter.

Environmental taxes addressing either type of pollution situation can provide important economic benefits. In addition, they share important common issues in their design and implementation that bear on the range of economic outcomes with which they may be associated. The remainder of this testimony highlights some of those issues and provides illustrations in terms of a carbon tax. T

The U.S. would not be the first country to consider a carbon tax. Carbon taxes are being explored by several other countries as a way of reducing CO_2 emissions and raise revenues. In fact, the Netherlands and Finland have carbon taxes in place. While the tax rate being employed so far are relatively small, they are in addition to already fairly high energy taxes. For example, the Netherlands carbon tax is designed to raise around $75 million with coal being taxed at $1.30 per ton. The carbon charge in Finland is set at $6.10 per ton of carbon.

The Case for a Carbon Tax

The combustion of fossil fuel to power our homes, businesses, cars, and trucks results in the discharge of a wide array of pollutants into our environment. While several of the pollutants from the burning of fossil fuels are regulated by federal, state and local governments (most notably, SO2, volatile organic compounds, particulate and NOx), one major pollutant, carbon dioxide (CO_2), remains unconstrained. Carbon dioxide may offer an unique and important basis for an environmental tax.

CO_2 is not a conventional pollutant in the sense of being associated with immediate effects on health and the environment. It is, however, a greenhouse gas and one of the major contributors to the risk of accelerated global warming. While many would argue over the timing and degree of risk posed by global warming, there is an apparent consensus in the scientific community that a global temperature rise of 3 to 9 degrees Fahrenheit is likely to be associated with a doubling of the global atmospheric concentration of CO_2. An effective doubling of CO_2 could occur as early as 2030. The potential economic, social and environmental disruptions associated with global warming on this scale are also uncertain but may include:

- rapidly changing climate patterns rather than the relatively stable climates of the past millennia;
- new and changing water resource regimes;
- more vulnerable and uncertain agricultural production systems;
- smaller and less numerous ecosystems;
- rising sea levels; and
- increased risk of large scale environmental losses from positive feedback effects.

A tax levied on fossil fuels in relation to their carbon content (and thus contribution to CO_2 emissions) is one mechanism for reducing CO_2 emissions. A "carbon tax" would change the prices of fossil fuels (natural gas, coal and oil) relative to each other and to other sources of energy. While a "carbon tax" would have significant revenue raising potential, the economic rationale for the tax would be to ensure that prices of fossil fuels reflect the economic and environmental risks associated with combustion. Thus, a carbon tax should be viewed first and foremost as a tool for redressing an existing market failure -- that current energy prices do not fully account for the social costs of energy consumption.

The Congressional Budget Office, in its analysis of options for reducing the deficit, has outlined some of the basic design characteristics of a carbon tax that might be considered.[2] The tax should be levied on fossil fuels as they enter the economy at the mine, dock and wellhead. This ensures that the tax base is relatively broad, and will capture virtually all sectors of the economy that consume fossil fuels. It also removes the need to decide in advance which sources of CO_2 should be controlled and at what level. The price signals resulting from the tax will make those determinations so that the reductions are achieved the cheapest way possible.

The "Right" Level of Environmental Taxes

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[2] Congressional Budget Office, Reducing the Deficit: Spending and Revenue Options, U.S. Government Printing Office, Washington, D.C., February 1990.

The level at which environmental taxes should be set is conceptually straight forward. Ideally, one would estimate the expected value of future risks associated with the discharge into the environment of an additional unit of pollution. For most pollutants, however, including CO_2, this information is not yet available or reliable. Without quantitative information, for example, on the benefits of reduced global warming risks, it is difficult to estimate with precision the degree to which fossil fuel prices are currently understated. The tax rates used by CBO to evaluate a carbon tax option, on the other hand, are based on estimated level necessary to level off or actually reduce CO_2 emissions over a 10 year period. CBO's "stabilization tax" rate is around $28 per ton of carbon and can be equated to a tax of $17 on a ton a coal, $3.60 on a barrel of oil and $0.45 per thousand cubic feet of natural gas. The potential emission reductions from this tax might be consistent with the announced White House position to "stabilize CO_2 emission as soon as possible." The carbon tax rate can always be raised or lowered as additional information concerning the benefits and costs of CO_2 emission reductions is developed.

The problem of having little formal data on the degree to which market prices diverge from social prices is not unique to greenhouse warming. The lack of similar information for most other current environmental problems complicates, but does not stop the development of programs to reduce those risks. Further, many types of excise taxes are rationalized, in part, as raising the price of certain goods to reflect the social costs associated with their consumption. Federal and state "sin" taxes (on alcohol or tobacco, for example) are rarely estimated, for example, on the basis of a formal accounting of the social costs and benefits of reducing the use of the taxed product.

The Economic Benefits of Environmental Taxes

Environmental taxes offer several distinct advantages over other tax strategies and other methods for addressing environmental risks. A hypothetical carbon tax illustrates the range of these benefits. Although a full economic analysis of carbon taxes has not yet been completed or published, the CBO discussion of alternative tax options and past analyses of various energy taxes offer some insights to comparative benefits of a carbon tax as a revenue source and a greenhouse warming policy response.

Revenues - Unlike other regulatory-based measures to reduce CO_2 emissions (or other pollutants), a carbon tax would raise significant revenues. According to CBO, a CO_2 stabilization tax might generate around $163 billion over a five year period. These revenues could play key roles, for example, in reducing the federal budget deficit, in reducing any distribution burdens imposed by a carbon tax, or providing the funds to sponsor research and development on technologies affecting the demand and supply for energy. While the process by which any carbon tax revenues are allocated should not necessarily be different than for other federal revenues, the existence of revenue potential does offer important economic policy opportunities. This is particularly true if carbon taxes are viewed as just one part of a larger effort to rationalize domestic energy use and minimize economic and social disruptions.

Cost-Effective Emission Reductions - The market for fossil fuels and fossil fuel energy sources cuts across virtually every economic sector of the U.S. economy. Each of the various uses of fossil fuels offers different opportunities for reducing the amount or type of fossil fuels utilized. Each of the opportunities is likely have different control costs. It would be nearly impossible to select the cheapest or most cost-effective set of regulations or control requirements from the

hundreds or thousands of opportunities for conserving energy or switching fuels. A carbon tax would automatically bring out many of the least expensive CO_2 reduction options as the tax is passed on through the markets for fossil fuel products.

While there is strong presumptive evidence that a carbon tax would lead to cost-effective emission reductions, several characteristics of domestic energy markets may still limit the range of economic responses. For example, state and local electric utility regulatory constraints may restrict the ability of prices to guide conservation or efficiency investments even at higher energy price levels. No market is perfect, and the full range of CO_2 emission reductions from a carbon tax may require other regulatory and institutional reforms. Any other set of emission control requirements is likely, however, to cost the economy more to achieve the same level of control than a carbon tax.

A carbon tax is likely to reduce other pollutants associated with fossil fuel consumption. Unlike CO_2, however, SOX and NOX emissions are more a function of the type, for example, of coal used and the method by which the coal in transformed into energy. (The same amount of CO_2 is emitted from burning a ton of coal no matter how it is burned.) Therefore, it is not necessarily the case that the resulting non-CO_2 emission reduction would also be cost-effective. Different environmental taxing strategies would probably make more sense if SOx emissions were the primary pollution of concern. Nevertheless, a carbon tax will reduce the use of coal to produce energy and, thereby lower emissions of many other pollutants. The value of these benefits should, of course, be included in any analysis of the costs of a carbon tax. They can be subtracted from the cost side of the equation to arrive at a net cost of CO_2 reduction or added to the benefits of reducing CO_2 emissions.

Efficiency Gains from a Carbon Tax - Unlike many other sources of federal revenue, a carbon tax would generate overall economic efficiency gains, regardless of how the revenues from the tax are used. Short-term macro economic costs will arise from a carbon tax (as they do with most tax strategies as discussed more fully below), but the ultimate rearrangement of resources in the economy following the imposition of a properly design carbon tax should leave the economy better off. This reasoning follows from the logic of a carbon tax -- that is, to correct existing prices for energy to reflect the social costs of fossil fuel combustion, primarily CO_2 emissions. If the tax has been set at the right level, the resulting new prices should lead to a better allocation of economic resources in the long term.

Relationship to Other Policy Options - There appears to be almost unanimous agreement that greater investments in energy efficiency and conservation and research in alternative energy supplies are key components of any domestic strategy to reduce CO_2 emissions. In fact, these two areas are the central pieces of the President's current policy recommendations concerning the risk of global warming (along with increased scientific research). Higher energy prices, reflecting their true social costs, would work in tandem with these other programs. The success of investments in energy technologies depends, in large part, on the existence of an economic incentive for households and industrial consumers of energy to use the fruits of the research. Energy consumers could be forced to apply conservation and efficiency measures, but prices offer a much more effective mechanism for encouraging the right kind of efficiency at the right time and right place. In addition, higher energy prices would provide a continuing incentive for the private sector to develop alternative energy use and production techniques to supplement (or even eventually displace) public sector efforts.

Macroeconomic Consequences of Environmental Taxes

No matter how badly the market has priced domestic output in terms of environmental costs, the fact remains the U.S. economy has arranged itself around these prices. Production, employment and energy consumption patterns have developed that are dependent on status quo of relative prices not inclusive of social costs. Thus, attempts to reorganize prices by an environmental tax will rearrange current economic patterns and may result in measurable economic losses even taking into account the possibility of some winners as well as losers. In the case of a carbon tax, those industries or energy users most dependent on fossil fuels, least able to switch to alternative energy sources, least able to produce lower energy product lines, or least able to reduce their overall use of energy will be hardest hurt. By definition, however, these losses should be viewed as transitory not permanent if the change in the price of energy is no more than the benefits associated with reduced fossil fuel energy consumption.

Short-term Macroeconomic Impacts - Virtually, every macroeconomic analysis of energy or environmental taxes report lower levels of GNP and higher prices levels than would be the case without the tax. As shown in an analysis conducted by Data Resources Inc., this result is also true of virtually any tax strategy for reducing the federal budget deficit including increased income taxes or a broad-based consumption tax.[3] These analyses assume, however, that no other benefits from a tax are forthcoming.[4] While this may be true for certain types of taxes, it cannot be the case for an environmental tax. A tax on tobacco, justified in part on the social costs of smoking, would be shown using these models to have a negative effect on the economy. There is a problem in the logic. Economists argue that we have too much pollution because we fail to price properly the use of the environment. Yet, when we do price it right, the economy is forever worse off.[5]

The major source of confusion is not from the logic but within the models themselves. None of the most quoted analyses or macroeconomic models include or capture the benefits from tax strategies that correct market failures as well as raise revenues. The realization that domestic national income accounts include only a fraction of the benefits from environmental pollution control is hardly new. Further, virtually all economic studies relating environmental regulation to economic productivity losses ignore the benefit side of the equation.[6] It is

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[3] Caton, Christopher N., "Fixing the Deficit: What is the Best Way?", Presented at PIRNIC Oil Policy Seminar, Washington, D.C., March, 1989.

[4] Very quick reductions in the deficit could translate into short-term losses in GNP as the economy adjusts (depending on domestic monetary policy). Over the long run, however, lower domestic interest rates should stimulate domestic investment and economic growth.

[5] For a more detailed discussion of these issues as they relate to a gasoline tax, see: French, Mark, "Efficiency and Equity of a Gasoline Tax Increase," Federal Reserve Board, Washington, D.C., July 1988.

[6] This omission is most is most explicitly noted in, Barbera, A.J. and V.D. McConnell, "The Impact of Environmental Regulations on Industry Productivity: direct and Indirect Effects," Journal of Environmental Economics and Management, Vol. 18, No. 1, (1990), pp 50-65.

essentially assured that any economic analysis of an environmental tax will show economic losses.[7]

The problem is fundamental to how society values economic and environmental goods. GNP is an imperfect way to measure social welfare unless gross national output can be defined and estimated to include the value of reductions in environmental risks.

Nevertheless, short-term transitions are likely to occur under any new tax policy. These costs for environmental taxes will be a function of the size of the tax, the time period over which the tax is put in place, structural rigidities in the economy, and how the tax revenues are used. In the case of a carbon tax the current macroeconomic models portray the flexibility of the economy by assumptions concerning the responsiveness of the demand for energy as a whole and fossil-fuel energy specifically to price changes, and the responsiveness of supply of energy to price changes. Econometric models rely on past trends as predictions of the future. These models may overstate the transition costs if they underestimate the ability or incentive for consumers and producers to adopt energy-reducing responses.

For example, if new opportunities for conservation or energy efficiency to reduce energy demand become (or are) available, short-term transition costs associated with a carbon tax might be significantly lower. The possibility of this latter point being true has attracted the attention of energy efficiency enthusiasts and others. Some have argued that energy conservation can be costless and result in CO_2 emission reductions at a zero or even a negative cost.[8]

If the transition costs of an environmental tax are judged to be too high, the timing of the tax could be modified. A carbon tax that is phased in over a period of several years would reduce the interim economic impacts by providing more time for producers and consumers to respond to the price changes. While a phased tax will not achieve the same emission reductions, at least in the same time frame, it would put the economy on a long term transition path to reduced pollution. In addition, some of the macroeconomic consequences could be reduced by rebating the revenues by reducing other tax burdens.

International Competitiveness - Raising relative domestic product prices through an environmental tax will have differential industry impacts. Without formal economic modelling it is hard to identify which sectors of the economy

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[7] There is a more subtle issue involving the establishment of a baseline for comparing costs and benefits. For example, in a recent analysis of the costs to electric utilities of climate change estimated that this industry might have to spend up to $100 billion over the next twenty years to meet new peak load demands. (DRI/McGraw-Hill, Energy Review, Lexington, MA, August, 1989). Should this figure be included in current baseline GNP, or is it part of the benefits of reducing global warming risks?

[8] It is impossible at this point to test the hypothesis that enough energy conservation and efficiency is available at very low costs to negate the short-term macroeconomic impacts of a carbon charge. An economic supply curve for energy efficiency (that relates the price of energy efficiency investments with the quantity energy efficiency in various consumer and producer sectors) on an aggregate national level needs to be developed and incorporated into the econometric macroeconomic models.

would be most affected. In the case of a carbon tax, those industries that are less energy intensive or best able to substitute inputs or outputs to minimize energy costs will be hurt less than other industries. It is likely, however, that overall the cost of domestic products will rise, in the short-run, relative to our international competition. This is true regardless of the fact that energy prices in Europe and Japan, for example, are already much higher than U.S. prices.

The ultimate impact of an environmental tax on the domestic trade balance would depend, in the case of a carbon tax, on whether the tax was used to help reduce the federal budget deficit, the degree to which oil imports are lowered and the new mix of outputs as the domestic economy responds to higher energy prices. Nevertheless, it may be important from a trade perspective to consider federal policies (tax or otherwise) that would help minimize any detrimental trade effects by lowering the costs of other factors in production. For example, increased investment tax credits for research and development on energy saving technologies, revised treatment of capital gains or reductions in the double taxation of corporate profits might offset some of the increased energy prices.[9]

Distributional Consequences of an Environmental Tax

While a properly designed environmental tax would result in improved economic efficiency, it would also redistribute domestic incomes. Again, a full accounting of who wins and who losses under a new price regime requires formal economic modelling. For a carbon tax, though, it can be presumed that concern might be focused on at least three key potential distributional impacts. First, to the extent that a carbon tax would fall relatively hardest on the use of coal, wealth and jobs in the coal mining and production sectors will fall. Thus, any strategy to redirect energy prices, on the basis of CO_2 or some other pollutant, will have to also address the need to adopt transition policies for the coal mining population. Some programs to assist in the downsizing of the coal mining sector, at least in some regions of the country, are presumably already in place and might provide guidance in the development of a larger scale effort.

The second sector differentially affected by a carbon tax may be lower income households. Any tax on consumption, be that product specific or a broad-based consumption tax is likely to be regressive. That is, that lower income households would pay more under such a tax as a percentage of income than higher income classes. Analyses by CBO and others argue, however, that an energy tax may actually be proportional if tax payments are compared to expenditures rather than income or if the comparison uses income over a lifetime rather than in one year.[10] While the degree of inequity associated with a carbon tax may be subject to some analytical uncertainty, various policies might be considered as part of a energy tax package to help offset any effect. Income tax credits for energy payments made by lower income classes may be one possibility. Another option with much broader implications would be to offset

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[9] A recent report by the Office of Technology Assessment identifies several federal policy options that could help reduce the cost of capital to U.S. firms and thus improve their competitive positioning. Office of Technology Assessment, Making Things Better -- Competing in Manufacturing, U.S. Congress, Washington, D.C., 1990.

[10] See, for example, Congressional Budget Office, The Budgetary and Economic Effects of Oil Taxes, U.S. Government Printing Office, Washington, D.C., April 1986.

some portion of carbon tax receipts by lowering another regressive tax. The current payroll tax that finances social security programs is an obvious prospect.

Finally, a carbon tax is likely to have very different regional impacts. Electricity consumers in states that rely heavily on coal-fired power plants will pay a greater portion of the tax than consumers serviced by nuclear or hydropower. Further, the wealth of regions of the country that contain greater concentrations of energy intensive industries may suffer relative to other regions.

CONCLUSIONS

Most taxes have the potential to distort economic choices. Environmental taxes are quite different. As long as care is given to setting the right tax level, taxes based on environmental degradation offer the potential of redirecting our economy to a more efficient allocation of resources as well as generating significant revenues. It makes little sense to raise the cost of good things in the economy while other components of the domestic economy remain underpriced. While it would be misleading to understate the implementation issues surrounding various environmental taxes or their distributional implications, the huge benefits from a more rational tax system puts a high value on finding the right solutions to these potential problems.

Mr. ANDREWS. Thank you, Mr. Dower.
Ms. Newsome.

STATEMENT OF SHARON NEWSOME, VICE PRESIDENT FOR RESOURCES CONSERVATION, NATIONAL WILDLIFE FOUNDATION

Ms. NEWSOME. Thank you. My name is Sharon Newsome. I am vice president for resources conservation at the National Wildlife Federation, and I appreciate the opportunity to appear before you on behalf of our 5.6 million members and supporters. We are very pleased that the Ways and Means Committee has taken an interest in the issue of how corporations and tax policy can impact the environment. In fact, I am hopeful that this issue has ever greater currency because of an article that I saw today in the New York Times which says that there is a shortfall in corporate taxes as a result of the 1986 act, and so perhaps some of these proposals will be of even more interest to the committee.

One of the most important taxes that we believe this committee could focus on is an increase in gasoline and diesel fuel taxes, and I know you have had a lot of testimony today about that. But just let me reiterate the National Wildlife Federation's support for raising those taxes.

We do believe that there are some drawbacks but that they can be addressed. The impact on low-income and rural Americans needs to be addressed, and certainly in any new tax we need to make sure that the revenues are used for mass transit and other environmental programs.

A related matter is the way the Tax Code deals with employee parking subsidies. The current tax law allows employers to provide over $200 per month in tax-free parking privileges, while at the same time only $15 per month is allowed for those who commute via public transportation. This is an obvious disincentive to the use of public transportation and could be corrected by removing the tax benefit enjoyed by auto drivers.

Another important opportunity to dampen the use of fossil fuels is the gas-guzzler tax. We favor increasing the fuel economy threshold for the gas-guzzler tax and escalating it on an annual basis.

According to the Joint Committee on Taxation's February 28, 1989, estimate of Federal tax expenditures for fiscal years 1990 through 1994, a host of tax breaks to the fuel minerals industry will result in tax losses of over $7 billion for the fiscal years 1990 through 1994. Because the petroleum industry is increasingly exploring in remote frontier areas, such tax expenditures amount to subsidizing the environmental degradation of some of America's most pristine lands. These tax incentives also may be shifting investment dollars toward continued exploitation of nonrenewable fossil fuels and diverting investment dollars from more benign renewable fuels. So we would urge the committee to look at that.

I know the committee has heard a lot today about air pollution emission taxes, so let me just say that we also favor emission fees on pollutants such as sulfur dioxide and nitrogen oxide, while recognizing that those taxes cannot supplant or replace a strong regulatory program.

There are two areas of public land nonfuel development subsidies which we believe the committee should take a look at. Currently, there is no Federal royalty charge for minerals extracted from the over 450 million acres of public domain lands managed by the Bureau of Land Management and the U.S. Forest Service under the 1872 General Mining Law. The absence of a royalty program or tax receipts for the removal of these minerals is depriving the Treasury of significant revenues and encouraging environmental damage to large areas of our public lands.

Another land development subsidy is the abnormally low grazing fee for use on public lands. There are over 300 million acres of these lands that are being grazed by only 27,000 livestock operators, and the rates charged are substantially below those for private lands. We believe a tax on these permittees could raise over $100 million in new revenue.

We also support the imposition of a watchable wildlife fee on recreation equipment. Watchable wildlife is those species not hunted or fished and are not threatened or endangered, yet we know that these species are in desperate need of monitoring and management programs. But without new moneys, those programs will not be done.

There are many ways in which the Tax Code could be used to promote greater wetlands protection and contribute to the goal of no net loss, and we encourage the committee to look at those.

An area where we urge action but it is not a new tax but, rather, a correction is the oilspill liability trust fund. The committee has a per-spill expenditure limit of $500 million and a sub-cap of $250 million on natural resource damages. The committee took decisive action on the Omnibus Reconciliation Act, but there are some problems that need to be fixed now that we are in the midst of passing an oilspill liability bill. We believe that these amounts, in fact, are counterproductive to the goals of the oilspill liability legislation, and we would ask you to look again at changing those caps. After all, Exxon has already spent over $2 billion on cleanup of Valdez. A $500 million cap does not seem appropriate, given our recent experience.

Finally, we would urge the committee to look at tax credits to promote the use of recycled materials.

Thank you.

[The prepared statement follows:]

STATEMENT OF WILLIAM W. HOWARD, EXECUTIVE VICE PRESIDENT
NATIONAL WILDLIFE FEDERATION
BEFORE THE HOUSE COMMITTEE ON WAYS AND MEANS
REGARDING THE IMPACT OF FEDERAL TAX POLICIES ON THE ENVIRONMENT
MARCH 6-7, 1990

Mr. Chairman and Members of the Committee, thank you for the opportunity to present the views of the National Wildlife Federation (NWF) regarding "the manner in which the federal tax code could be used to improve our environment." My name is William W. Howard, and I am NWF's Executive Vice-President. NWF is the nation's largest conservation/education organization, enjoying the support of over 5.6 million Americans, and including affiliate organizations in 52 states and territories. We are very pleased that the Ways and Means Committee has taken an interest in the issue of how federal tax policies affect the decisions of corporations and individuals which may impact the environment.

The Committee is also to be commended for taking the steps it did last year in imposing a tax on CFCs and halons, and in increasing the funding for the Oil Spill Liability Trust Fund. It is my belief that the 1990's will be the "Decade of the Environment," perhaps our last chance to repair the damage we have wrought to the world's environment. I am very encouraged that the Committee is interested in considering methods of improving the quality of our environment through changes in the tax code.

Before commenting on some of the specific tax policy areas of interest to NWF, it is important to point out that though many provisions of our tax laws can and do influence corporate and individual decisions that impact the environment, any changes in our tax laws which have as their goal the improvement of our environment usually should be accompanied by effective regulatory programs as well. In other words, for the federal government to effectively address our environmental problems, complimentary taxation, regulatory, and in many cases federal funding programs, need to be developed and implemented so that the benefits provided by one set of policies or incentives do not negate or undermine those of another.

For example, though the imposition of an emission tax on sulfur dioxide released from thermal power plants could certainly be an incentive to utilities to reduce such emissions; emission taxes alone cannot substitute for stringent regulatory standards and effective regulatory programs. However, the development of an emission tax program coupled with stringent regulatory restrictions on sulfur oxide emissions could indeed have benign effects on the environment.

Keeping in mind that federal tax policies are one important tool in a mix of policies that affect the quality of our nation's environment, we have the following thoughts on federal tax policies to offer the Committee for its consideration.

ENERGY POLICY

Increase gasoline and diesel fuel taxes. Our nation's practice of consuming enormous amounts of non-renewable fossil fuels - petroleum products - have an enormous adverse impact on the environment in a multitude of ways. Taking oil as an example, our domestic petroleum industry, faced with dwindling domestic reserves, increasingly is seeking petroleum deposits in "frontier" areas which are often environmentally fragile. Such areas include the coastal plain of the Arctic National Wildlife Refuge, the Outer Continental Shelf, and sensitive areas within the Rocky Mountain Overthrust Belt. The transportation and refinement of petroleum products poses environmental threats in the form of oil tanker spills and emissions of a variety of air and water pollutants from refining facilities. The consumption of petroleum in autos and trucks causes air pollution and

contributes about 30 percent of our greenhouse gas emissions. Because of our reliance on the automobile as our nation's preferred mode of transportation, our urban areas are choked with traffic and smog. In addition, demands for more roads - often through urban green spaces and residential neighborhoods - disrupts and degrades the environment of our urban and suburban communities. There is no question that if we are to improve the quality of our nation's environment and address the problem of global warming, we will have to reduce our consumption of fossil fuels.

Given these facts, we believe that substantial increases in gasoline and diesel taxes would be an effective means of both limiting the use of these products, and of increasing revenues for the federal treasury.

But as I know the Committee is aware, this is an area fraught with peril for policy-makers. On the one hand it is hard to argue with the premise that these petroleum products are undertaxed, given the fact that the U.S. has the lowest gasoline taxes of any Organization for Economic Co-operation and Development (OECD) country, and is the world's largest consumer of petroleum products. And it is obvious that a substantial increase in gasoline and diesel fuel taxes will be an incentive to consumers to use these fuels more efficiently. The more efficient use of these fuels will have beneficial impacts on air quality, the greenhouse effect, and our international trade balance. Moreover, the reduction of our consumption of petroleum products will lessen pressures to extract petroleum from environmentally sensitive lands. Finally, a substantial increase in gasoline and diesel fuel taxes can certainly provide a source of much needed revenue to assist with our budget deficit problems, to provide a source of funding for the development of alternative transportation technologies and the rebuilding of our transportation infrastructure. Also, were taxes to be increased, a certain portion of them could be devoted to wetland, no-game wildlife programs, or other conservation initiatives. It is appropriate that the proportion of gasoline taxes derived from uses unrelated to transprotation - such as lawnmowers and other gasoline powered equipment - be directed toward such programs.

However, there are a number of downsides to substantially increasing gasoline and diesel fuel taxes. A gas tax would be a regressive tax, the impact of which would be felt most by low income Americans who rely on automobile transportation. It would also fall heavily on rural Americans who have no transportation alternatives. Another problem is that the "highway lobby" will undoubtedly want revenues derived from a higher gas and diesel taxes devoted to the continued expansion of our already expansive highway system, rather than used to develop alternative modes of transportation. There is also likely to be resistance from motorists generally to a substantial increase in the gas tax, because we have become so accustomed to extremely low gasoline prices.

However, if some means can be devised of assuring that low income and rural Americans can to some degree be protected from the adverse impacts of higher [illegible] diesel taxes, and to keep the "highway lobby's" hands off the lion's share of the increased revenues such a tax increase would generate, the imposition of higher gasoline and diesel fuel taxes could pay a substantial dividend in terms of improving America's environmental quality, transportation policy, balance of trade situation, and in helping rectify our budget deficit problems.

Employee parking subsidies. The current tax law allows employers to provide over $200 per month in tax-free parking privileges, while at the same time only $15 per month is allowed for those who commute via public transportation. This is an obvious

disincentive to the use of public transportation, and could be corrected by removing this tax expenditure enjoyed by auto drivers.

You may be interested to know that NWF has tried to address this issue to some degree internally. For many years NWF offered employees free parking at our downtown headquarters location. However, headquarters employees who used public transportation were offered no similar benefit. But starting in September of this year NWF will no longer offer its headquarters employees free parking. Instead, all employees will be offered a transportation benefit of between $60 and $70 per month, to be used in whatever fashion they desire. Although this arrangement is more equitable to all of our employees, employees who currently drive to work will be losing a substantial tax benefit - where once they received tax-free parking privileges, tney will now receive a modest monetary benefit, the bulk of which will be treated under current law as taxable income.

Removing the current tax subsidy for parking from the tax code, and increasing the credit for public transportation to, say, $50 per month, would provide a distinct incentive to commuters who currently drive and park to use public transportation, and to employers to devise incentives for employees to use public transportation.

Gas guzzler taxes. NWF favors increasing the fuel economy threshold for the gas guzzler tax, and escalating the gas guzzler tax on a yearly basis. This tax really comes very close to being a "painless" tax - painless in the sense that consumers can choose whether or not they will pay it by choosing what kind of car they buy. Though large revenues probably would not be derived from the imposition of higher gas guzzler taxes, we feel that the imposition of a higher tax rate with an increasing threshold each year can act as a strong disincentive to consumers to buy inefficient autos and trucks. As the American Council for an Energy Efficient Economy has pointed out:

> Gas guzzler taxes have a number of desireable features. Since the tax only applies to new cars, low-income persons will be largely unaffected... And since the tax is a large penalty imposed at the point of automobile purchase, instead of very small sums stretched out over many years..., it will likely have a very strong effect on the willingness of car buyers to seek higher mileage cars. Revenues from the tax could be used to provide rebates to buyers of highly efficient cars. (ACEEE. October 4, 1989)

I would like to commend your attention to Section 421 of H.R. 1078 which is before this Committee. It provides for escalating gas guzzler taxes for cars, light vans, and light trucks through the 2003 model year, with taxes ranging up to $3000 per vehicle. This provision of H.R. 1078 has the support of NWF.

Mineral depletion allowances. According to the Joint Committee on Taxation's February 28, 1989, "Estimate of Federal Tax Expenditures for Fiscal Years 1990-1994," a host of tax breaks to the fuel minerals industry will result in tax losses of over $7 billion for the Fiscal Years 1990-1994. Because the petroleum industry increasingly is exploring remote "frontier" areas that often harbor important environmental values, such tax expenditures amount to subsidizing the environmental degradation of some of America's most pristine lands. Moreover, these tax incentives may shift investment dollars toward the continued exploitation of non-renewable fossil fuels, possibly diverting investment dollars from more benign renewable alternatives. Although it may be argued that this problem could be addressed by offering commensurate tax benefits for investments in renewables, perhaps a better way would be to eliminate tax subsidies for the

entire energy production sector, thus leveling out the playing field for all competing technologies.

Tax credits for solar, wind, and geothermal property. With respect to the continuation of tax credits for wind and geothermal property, the continuation of these incentives may help these industries mature. We would object to providing any tax incentives for hydroelectric development. This technology, unlike solar and wind, is not in its infancy, and, moreover, has serious environmental drawbacks. Dams destroy riparian habitats and block the migration of anadromous fish, while turbines grind up young fish fry.

Alternatively, it may be worth exploring whether or not the same advantages may accrue to these industries if instead of offering tax subsidies for them, existing tax expenditures that benefit fossil fuels, ethanol and the nuclear industry were eliminated, thus "leveling out the playing field" for investments throughout the energy sector.

AIR POLLUTION EMISSION TAXES

A system of emissions fees on such air pollutants as sulfur dioxide or nitrogen oxides can provide a powerful incentive for industrial sources to cut down on harmful emissions that degrade our scarce natural resources and injure human health. Much of our pollution exists because byproducts from otherwise legitimate production, distribution and consumption activities are not properly accounted for in the market. Industry and individuals usually do not have to pay for the use of the air or water into which they discharge their waste and they, therefore tend to overuse those environmental resources. Costs are then imposed upon others in the form of poor air quality and reduced human health, damaged and decreasing habitat for wildlife, and cleanup costs.

This failure to account for environmental resources in the market has often led to their careless and excessive misuse. In 1987 alone, EPA's Toxic Release Inventory data revealed that industry legally emitted 2.7 billion pounds of toxic air pollutants into the air. One possible approach to reducing such emissions is to charge an effluent fee on toxic releases.

How would such a fee be established? Economists suggest that the fee should be set at the cost to society of the damages caused by the pollutants. In theory, if a tax is charged for each unit of emissions, those producers who can install controls more cheaply than the amount of the tax, will choose to install the technology rather than pay the tax. Conversely, those producers for whom the costs of control are higher than the amount of the tax will pay the tax. In this way, assuming a free market and rational decision makers, emissions will be reduced up to the point where the costs of further reductions just equal the marginal benefits of control.

In practice however, establishing the appropriate level of a tax on air pollutants such as SO2 or NOx or toxic substances would be difficult, if not impossible because of the great uncertainty in determining the "marginal cost of damage." How can we place a definitive numerical value on the environmental damage caused by acid rain? Can we account for impacts that scientist have not yet precisely quantified, or economically elusive damages such as aesthetics? The establishment of the correct level of the tax is critical because if one underestimates the damages, a tax scheme could become a license to pollute. A system of emissions taxes leaves open the possibility of a source continuing to pollute the air if it is willing to pay for the privilege of so doing. Other concerns regarding a system of emissions taxes have been raised due to the difficulty of monitoring and enforcement.

The practical problems associated with setting an emissions tax at the correct level lead to two conclusions. First, any emissions tax rate will need to be periodically readjusted as additional estimates of damage are collected. Second, for many--if not most--pollutants, it will be necessary to use a hybrid approach to controlling them: a regulatory standard should be established to define a ceiling for total emissions and a tax could then be employed to bring about further reductions.

For example, NWF supports the need for regulations to limit the precursors of acid rain: sulfur dioxide and nitrogen oxides. Even after these regulations are imposed, power plants and industrial facilities will emit a certain level of damaging pollution. An emissions tax could usefully be employed to internalize the cost of that remaining pollution and encourage further reductions.

We recommend that revenues generated from a tax on SO2 or NOx emissions be deposited in a trust fund dedicated primarily to finance research programs on abatement technologies, the effects of acid rain, and energy conservation, and mitigation programs for workers that may be displaced by the effects of such a reduction program.

Finally, though NWF supports the imposition of pollution taxes as a cost-effective incentive for industry to reduce harmful emissions into the environment and at the same time raise much needed revenue, we do not view a system of emissions fees on sulfur dioxide and oxides of nitrogen as a substitute for an acid rain regulatory program. The acid rain legislation now before Congress will take ten years to implement and will not be in full force until the year 2000. In the meantime, the nation may be able to recoup some of the costs imposed by acid rain damage by adopting a tax on sulfur dioxide and nitrogen oxide emissions. In contrast to the pending legislation, emissions fees can be levied quickly to provide an immediate impetus to install pollution control technology.

PUBLIC LAND NON-FUEL DEVELOPMENT SUBSIDIES

Impose an ad valorem tax on hard rock minerals produced from public lands. Currently no federal royalty is charged for minerals extracted from the over 450 million acres of public domain lands managed by the Bureau of Land Management (BLM) and U.S. Forest Service under the 1872 General Mining Law. The absence of a royalty program or tax receipts for the removal of these minerals under the archaic 1872 Law are depriving the Treasury of significant revenues, and encouraging environmental damage to large areas of our public lands.

For example, many parts of the western U.S. are undergoing a gold mining boom. Between 1984 and 1989 gold production in the U.S. soared from about two million troy ounces to just under 6.5 million troy ounces per year. The bulk of this production was from public lands, with the greatest increase in production coming from BLM lands in Nevada. Nevada production increased from one million troy ounces in 1984 to 3.6 million troy ounces in 1989. As a result of this boom, the U.S. is now the world's third-largest producer of gold, most of it extracted from public domain lands.

The preferred method of extracting gold ore today is via huge open-pit mines, where enormous tonnages of low-grade ore are removed from pits up to 1500 feet deep and a mile wide. The ore is then crushed, usually heaped into huge mounds, and sprayed with a cyanide leaching solution to extract the gold. Upon termination of operations, the open pits and tailings mounds remain. It is a very environmentally destructive process, and very profitable. Yet the federal government charges no royalties

for the removal and beneficiation of gold taken from the public lands, because under the 1872 law, "hard rock" minerals such as gold, silver, lead, copper, etc., are free for the taking from the public domain. Many corporations engaged in mining operations on the public lands are foreign-owned, yet pay no royalties for the use of those lands.

We suggest that this Committee investigate the feasibility of assessing a federal ad valorem tax of ten percent on all minerals extracted from the public lands under auspices of the 1872 Law. Since producers of gold and other minerals taken free-of-charge from the public lands may rush to "patent" their claims at the 1872 price of $2.50 an acre - thereby removing the mineral property from the public domain - we further recommend that the imposition of this tax apply to all public domain lands being mined as of the date of introduction of the legislation, with a provision that any change in ownership status of the mineral lands does not affect the imposition of the tax.

Moreover, to the extent that the percentage depletion allowance applies to the minerals extracted under the 1872 law (ex., gold, silver, zinc, lead, bentonite, etc), the depletion allowance could be repealed, thus boosting federal revenues from the extraction of these minerals.

Tax the grazing fee subsidy on public lands. Over 300 million acres of lands managed by the Bureau of Land Management and the U.S. Forest Service are subject to domestic livestock grazing via permits issued to some 27,000 livestock operators in 16 western states. The fees charged livestock operators are set at rates substantially below those charged for comparable private lands as a result of an Executive Order issued by President Reagan in 1986. The current fee is $1.82 per "animal unit month" (or AUM, the amount of forage consumed by one cow or one cow-calf unit for one month). Comparable private land lease rates currently average about $8.70 per AUM west-wide.

There is no justifiable public policy rationale for providing this inequitable subsidy to a small number of politically powerful domestic livestock producers (approximately two percent of all U.S. producers) who have grazing privileges on public lands. Moreover, as a consequence of decades of abusive livestock grazing practices by these operators, close to 70 percent of the rangelands managed by the BLM are considered to be in "unsatisfactory" condition by the agency. By levying a tax on the subsidy received by the permittees at 100% of the value of the subsidy, the federal government could receive over $100 million in new revenue annually (assuming a billable total of 17 million AUMs annually and continuation of the current difference between private land lease rates and fees charged by the BLM and Forest Service for public lands). The 100 percent tax rate, incidentally, is not confiscatory - it only represents the difference between the value of private rangeland lease rates and the rate charged by the federal government for public lands. The environmental benefits would likely be a reduction in the grazing of marginal rangelands, and increased revenue to the Treasury, which could be used to help fund range restoration programs.

WILDLIFE

Impose a "watchable wildlife" fee on certain types of recreation equipment. NWF believes that the Federal tax system can be used extremely well to support fish and wildlife conservation programs. Two such programs, the Federal Aid in Wildlife Restoration program (Pittman-Robertson Program) and Federal Aid in Fisheries Restoration Program (Dingell-Johnson Program) are excellent models of success. The Pittman-Robertson and Dingell-Johnson programs were enacted by Congress in 1936 and 1950

(Wallop-Breaux amendments in 1984), respectively. These programs are funded by excise taxes on hunting and fishing equipment and are collected by the Federal government from manufacturers. Annual receipts under the Pittman-Robertson program are approximately $100 million. For the Dingell-Johnson Program, annual receipts currently approximate $180 million.

We believe that excise taxes imposed on certain outdoor-use or outdoor-recreational products should be established to benefit "watchable wildlife." The term "watchable Wildlife" was coined to refer to those species that are not hunted or fished and are not threatened or endangered. These species have been virtually ignored by the state and federal fish and wildlife management agencies. Although watchable wildlife comprise over 90% of the United State's native fauna, less than 10% of state and federal fish and wildlife agency budgets have historically been used for watchable wildlife.

We believe there is a large public constituency that would support the implementation of a "user fee" concept in support of watchable wildlife. For example, in 1988, NWF surveyed its own members to determine the effect on total sales of a 10% excise tax on wild bird feed, if the money were used to conserve watchable (nongame) wildlife. Over 85% of the respondents indicated that such a tax would not cause them to lessen their total annual purchase of wild bird feed. The same survey, administered to the public by an independent polling firm, revealed that fully 75% of the respondents indicated that their annual purchase of wild bird feed would not decline.

We strongly believe that establishment of new excise taxes to benefit watchable wildlife embodies the concept of user fees, and would create a win-win-win situation. The public would win because they are a willing payer of user fees to benefit fish and wildlife conservation. The resource would win because adequate funding would finally be available to survey, manage and improve the status of our declining non-endangered and non-game wildlife. The Federal government would win because new funds would become available for fish and wildlife conservation without deepening the huge federal deficit.

WETLANDS CONSERVATION

Change the tax law to promote wetlands conservation. There are many ways in which the Federal tax system could be used to promote greater wetlands protection and to contribute to the meritorious goal of "no net loss of wetlands." Although not an exhaustive list, some of the options meriting examination by the Committee include the following:

- Increasing tax deductions individuals can take for gifts of wetlands to non-profit government entities.
- Extend the amount of time over which an individual can benefit from tax deductions from a wetlands gift conveyance.
- Allow credit against tax liability equal to 20% of the value of a wetlands gift conveyance.
- Allow an estate to donate a wetland to the Federal Government for conservation purposes and deduct the value of the wetland from the estate taxes.
- Allow for the tax free exchange of wetlands for wetlands owners who make an exchange with a conservation agency.

- o Allow donors of wetlands to retain subsurface oil and gas rights and access thereto, and still qualify for a charitable contribution.

- o Exempt gifts of wetlands from tax preference in the alternative minimum tax.

Finally, should the Committee begin deliberations on the Administration's proposed capital gains package, it should carefully avoid providing favorable tax treatment to gains obtained by converting or otherwise altering wetlands. Specifically, favorable capital gains tax rates must not be applied to gains attributable to wetlands "improvement" [i.e., draining, altering and converting to other purposes]. In the past, capital gains treatment for the drainage of clearing of wetlands, particularly forested wetlands, has been a significant impetus for wetlands destruction. Preventing capital gains to encourage our economic competitiveness should not bring with it ill-advised tax provisions which encourage the destruction of our natural resources.

ANCIENT FORESTS

Impose a 35 percent severance tax on logging old-growth redwood and Douglas fir forests. The ancient forests of the Pacific Northwest states are a unique and dwindling part of our natural heritage. These forest ecosystems once stretched undisturbed in a vast arc of nearly two thousand miles from the northern tip of the Alaskan panhandle nearly to San Francisco.

The ancient forests of the Pacific coast are dominated by large conifers ranging from 250 to 1,000 years old. Twenty-five species of conifer can be found, in addition to numerous hardwood species, but Douglas fir generally predominates in western Oregon and Washington, and ponderosa pine, east of the Cascade Mountains, while the largest tree of all, the coast redwood, is dominant in northern California.

These ancient forests are the richest, biologically, and most complex ecologically, of the forests in the Pacific Northwest and northern California. At least 118 vertebrate species find their primary habitat in ancient forests, more than in any other forest state. Forty-one of these species find their primary nesting, breeding, or foraging grounds nowhere else. The list of species whose dependence on old growth forests is most obvious includes the marten, fisher, Sitka blacktailed deer, northern goshawk, northern spotted owl, and Pacific giant salamander.

Yet, in spite of these unique ecological values, ancient forests -- on both public and private lands -- are being logged in an unsustainable fashion. On private lands, this accelerated logging is a response to several economic stimuli. First, corporate emphasis on improving the "bottom line" profit margin is driving the rapid harvest of valuable ancient forests. Second, corporations see the liquidation of ancient forest "assets" as a means to defend themselves against hostile takeovers. Third, the strength of the Japanese yen against the American dollar -- as well as strong Japanese demand for high quality lumber -- has led to record log exports from the region's state and private lands.
Current logging of ancient forests is tantamount to the "mining" of these unique forests. Under prevailing accelerated logging practices, ancient forests effectively are a non-renewable resource. The Society of American Foresters -- the nation's professional forestry organization -- has indicated that the forestry profession may not possess the expertise to manage ancient forests in a sustainable fashion, in such a way as to

regenerate "new" ancient forests following logging of original ancient forest stands.

Short-sighted, unsustainable management is undercutting both the environmental and long-term economic values of these forests. Even without additional environmental protection, the remaining volume of ancient forest timber -- public and private -- is simply too small to sustain the timber industry at current harvest levels.

Just as short-term economic incentives are driving the liquidation of ancient forests on private lands, economic incentives can be used to help sustain this threatened resource. For example, state and/or federal tax incentives could encourage the protection of ancient forests. A federal severance tax could discourage logging of these irreplaceable forests, while providing income to the Federal Treasury -- income that could support a variety of programs including land protection.

The National Wildlife Federation endorses the concept of a severance tax, as suggested by Rep. Pete Stark. NWF believes that a severance tax could be used to discourage the "mining" of old-growth redwood timber, as well as Douglas fir. We believe that the imposition of a 35 percent severance tax is appropriate, in light of the importance, and, under current management, the essentially non-renewable nature of this forest ecosystem. We also support amending the IRS code to deny deductions for management expenses related to the logging of ancient forest redwood or Douglas fir.

These small changes to the tax code could reap tremendous environmental benefits -- while providing additional revenue to the United States Treasury.

OIL SPILL LIABILITY TRUST FUND

Remove the Oil Spill Liability Trust Fund's per spill expenditure limit ($500 million) and its subcap ($250 million) on natural resource damages. The committee took decisive action in the Omnibus Reconciliation Act of 1989 to increase the oil spill tax from 1.3 to 5 cents on each barrel of oil moving into and out of the nation (26 U.S.C. 4611). We appreciate this extremely important step. The Congressional Budget Office had estimated that the new activities authorized by H.R. 1465 would place the Trust Fund in the red without an increase in its tax rate.

Negotiations, however, broke down on the Tax Code's delineation of the Trust Fund in Section 9509. As a result, the section sets limits on the use of the fund and on the amount it can expend on individual spills. These limits were appropriate in 1986 when the Committee enacted them, but not in the post-Exxon Valdez world of oil spills. The section allows the fund to expend no more than $500 million on a spill and no more than $250 million of that sum can address natural resource damage.

If these limits were applied to the Exxon Valdez spill, the fund would cover only a quarter of the $2 billion that has already been expended -- and natural resource damages have yet to be assessed. Exxon expects its expenses to reach $3 billion. This means much of the assurance that H.R. 1465 intends the Trust Fund to provide (for compensation of response costs, economic losses and restoration and acquisition of equivalent natural resources) would be illusionary.

While these limits protect the corpus of the trust fund, they fail to serve the purposes for which it was created. Once they are reached, those harmed by a spill will have to seek relief under state law, which could cause considerable delay. Spillers will face the additional costs without the protection of a fund

supported by the entire industry. The probability of unrecovered damages may also increase as oil companies and shippers move to minimize liability by forming more single-vessel companies.

While the Committee is not a participant in the Oil Spill Conference, NWF urges the Committee to report a companion bill that corrects these deficiencies when the Conference Report is sent to the floor. These issues have been debated in the House and Senate this last year and endorsed by large majorities. If time is too short, perhaps the Committee could negotiate with the conferees to incorporate appropriate language into their report that would be acknowledged when it goes before each House.

SUPERFUND DAMAGE ASSESSMENTS

Remove the prohibition against using Superfund to finance the evaluation of natural resource damages. When Congress enacted the Superfund Amendments and Reauthorization Act of 1986, it increased the resources going into the Superfund because it faced an enormous backlog of sites and costs. Congress also amended the tax provisions to no longer allow Superfund to pay natural resource damages -- these were to be recovered from the responsible parties.

The same provision eliminated the use of Superfund to finance natural resource damage assessments. As a result, almost no natural resource damage assessments have been undertaken and the statute of limitations for bringing natural resource damage claims against responsible parties is about to expire.

NWF urges the Committee to reinstate Superfund financing for natural resource damage assessments. Seed money is desperately needed. A few million dollars may yield hundreds of millions in responsible party funded restoration actions. The fund would recover these expenditures from the responsible parties, so this change would enhance rather than harm the intent of the Superfund. The proper and cost-effective time to undertake the assessments is when the Remedial Investigation/ Feasibility Studies are undertaken. If the assessments are not done, the public will go uncompensated for the destruction of its natural resources and may actually have to pay itself to restore them in the future. In addition, delays may result. The Federal and State Trustees may not sign the site release documents, since they will not have had an opportunity to fulfill their responsibilities under the act and might be vulnerable to legal challenge. Thus, we join the National Association of Attorneys General and others in urging that the Committee remove this limitation on the use of the Superfund from the Code.

RECYCLING INCENTIVES

Consider providing a tax credit to promote the use of recycled materials. One of the problems experience by some communities which have attempted to develop recycling programs to deal with their solid waste disposal problems is not being able to market certain recyclable materials. For example, though the District of Columbia now requires that households in the District separate newspapers from other trash, the District has experienced difficulty in finding markets for the newsprint it has collected. We recommend that the Committee investigate the feasibility of providing a tax credit to businesses which use recycled materials.

Mr. Chairman, this concludes my statement. I would be pleased to answer any questions. Thank you.

Mr. ANDREWS. I thank all of you. I must say that usually this committee hears from witnesses asking that their tax be reduced. You have spent most of your testimony suggesting all the ways that we might raise taxes.

I don't know if you were here during the previous witnesses' testimony, but they all talked about how increasing revenues right now would hurt our country's competitiveness with our trading partners overseas, especially environmental taxes. I wonder if the three of you might care to respond, please, to the comments that they made.

I guess the question is: If we raise taxes on business right at a time when competition with especially our trading partners along the Pacific rim is most intense, are we hurting our country's ability to be competitive? Mr. McCloskey.

Mr. MCCLOSKEY. Mr. Chairman, I would offer a couple of comments. First of all, for many products, the component of the cost represented by, say, the energy component of it, often is relatively small, as I understand it. Labor and capital costs are the major components. So we are not necessarily talking about a major cost component of the final cost to the consumer.

Second, to the extent we are talking about the energy component, this will be a further spur toward reducing the energy component through improved efficiency. Great strides have already been made in that regard in response to cost factors. But the estimates are that there is a huge amount of gain that yet could be made. That represents an improvement of competitive position in the long run. If you use less energy per unit of output, you're less subject to various adverse trends in the world, whether it be depletion of these resources or import instability or whatever it is.

Finally, I would just say that to the extent that we are viewing this tax as driven by the environmental problems associated with production, these are true costs to society which they should pay for under the "polluter pays" principle. We don't have products correctly priced as a result. All countries of the world now are subject to increasing pressures to combat their environmental problems. Japan is ahead of the United States in reducing air pollution. Maybe not so much in water pollution. So I don't think we can use this as a crutch in competing with the Japanese or the Europeans.

Mr. ANDREWS. Mr. Dower.

Mr. DOWER. A couple of points. First, as we think of raising taxes, think carefully about how we plan to use them. I think most of the earlier panelists would agree with the statement that one of the biggest inhibitions to domestic competitiveness is our Federal budget deficit. It raises the cost of capital to industries operating in this country, and that efforts that we can make to reduce the deficit, perhaps through environmental taxes, is one of the major things we can do to help improve their competitive position. At the same time, I think, as I mentioned in my testimony, we probably do want to look at offsetting tax policy or other Federal policy that is better targeted to help what really are the underlying competitiveness problems facing domestic industry in this country.

In a recent report by the Office of Technology Assessment called Making Things Better, they have an entire litany of the sort of issues that need to be addressed to improve the competitiveness of

the U.S. economy. A number of those are ones that can be addressed by this committee. Others might be by other committees of Congress. But one needs to look at it as a package, not simply let's raise the tax here and not try to address a host of other questions and issues that affect competitiveness across the board.

Mr. ANDREWS. Mr. McCloskey, should we also be using the Tax Code and tax credits to encourage industry to convert to alternative fuel vehicles, for instance, or use the Code to encourage companies to move toward cleaner products?

Mr. MCCLOSKEY. In general, we do not favor subsidies. We think there is a limited role there for new industries that are yet developing and that address important social problems. Clean air is one of them, as well as the ozone layer problem, global warming, others. So there may be a role there.

With respect to alternative fuels, however, we are looking at them not only in the clean air context, but in the global warming context where we generally want to see us get away from fossil fuels, and are looking toward such things perhaps as solar generated hydrogen.

It might be that, with respect to that and with solar power and photovoltaics, they would still be good targets for tax credits.

With respect to fossil fuels, we really, as I said earlier, we would really like to see a tax imposed on them so we think it would be inconsistent to both be taxing them on the one hand, and giving credits to others on the other hand.

Mr. ANDREWS. In some cases, you suggested that we earmark part of the revenues from the taxes that you have mentioned to achieve certain specific goals.

Would you still be in favor of the taxes if, in fact, the committee put all of the revenues into deficit reduction?

Mr. MCCLOSKEY. In general, I think the answer would be yes. And I think the taxpayers and the public would want some way of being assured that appropriations, even if there is no earmarking, would indeed result in an increase for some of the cleanup and environmental repair work that needs to be done that is associated with some of the efforts.

And I think particularly on the global warming problem, we can't do it, the United States can't do it alone. We can take care of eventually our own contribution to it. But we need some worldwide funding mechanism. And there we really strongly feel that some portion of it needs to be set aside for that purpose, or the job simply won't get done. And the U.S. efforts will ultimately be futile.

Mr. ANDREWS. Mr. Rostenkowski.

Chairman ROSTENKOWSKI. I have no questions.

Thank you, sir.

Mr. ANDREWS. Mr. Stark.

Mr. STARK. Thank you, Mr. Chairman.

I just wanted to welcome the panel. And to follow up on your inquiry of Mr. McCloskey, you don't want to see any more tax subsidies. And I'm trying to find through here—I was interested in Mr. Crimmins from the Chemical Manufacturers Association—I'm beginning to find some difference in whether to use tax policy as an incentive to sort of "do the right thing" when you really are not

sure exactly what the right thing is. Where there are multiple options, and perhaps the marketplace would select—but where we know something is the wrong thing, CFC's for example, does it offend you to have us treat that differently.

With CFC's, we could have forbidden them. Death penalty if you sell them or use them, or you just say no more CFC's. The industry and its customers would submit to us that that's a little harsh.

So we say all right, to encourage your using something else, we will artificially increase the prices of CFC's, or you tax them.

Do you object to that?

Mr. McCLOSKEY. No, indeed.

Mr. STARK. That's a different——

Mr. McCLOSKEY. That's right.

Mr. STARK. Really, it's a different sort of thing. We can identify it's bad. Even the people making it will say, "Yeah, I think we ought to get rid of it, or recycle it." So there is no disagreement as to how to solve the problem, it's to replace them.

Mr. McCLOSKEY. And in general I think that the taxes in this whole field help to get closer to an accurate price that embodies all social costs as well as all production costs. Whereas, the subsidies tend to distort the total social price.

Mr. STARK. So, if we were going to rely on the marketplace and we get all this argument now about cars, should we have tax, should we have cars that use electricity or what?

If we really identify that what's wrong is gasoline, and then say, well, let's put a whopper of a tax, let's, you know, a buck a gallon, and say we know gasoline is bad for us, bad to drink it, bad to sniff it, bad for the environment to burn a lot of it. So why not, and there's no disagreement, I don't even think the oil manufacturers could make a case that is good for you even if you load it with F-310 or something.

So why not just say OK, that we can tax. Then let the marketplace, good free enterprisers that we are, decide what will happen. And if nothing happens, you raise the tax a little further obviously. And sooner or later, people will be inclined to take public transportation or carpool, or buy smaller cars, something, and are you still comfortable? Do I still hit your comfort level with taxes?

Mr. McCLOSKEY. Well, indeed, we support a gasoline tax or some sort of nonrenewable energy tax or carbon tax.

Mr. STARK. Let me try one more thing. How about virgin trees?

Now, I keep—you know, this is nonrenewable resource, at least in our imaginable lifetime, right? But there's a lot of wood you can do on a recycling basis. You can grow it and harvest it like grapes or tobacco, or all these others wonderful crops.

So what if we just had a severance tax? Do you know what that is? It's like oil coming out——

Mr. McCLOSKEY. Yes.

Mr. STARK. Yes. For big trees—I mean for old trees. Just say, well, we really don't think they should be cut, but why don't we just put a tax of 35 percent of the retail value of the tree on virgin timber which would give these people an incentive, it seems to me. Are you comfortable with that idea or not?

Ms. Newsome, Mr. Dower, are you all comfortable with my approach to tax philosophy?

Ms. NEWSOME. Yes. In fact, Congressman, we did endorse that in our testimony a 35 percent severance tax on old growth and redwood timber. And we think that would be a great thing for protecting——

Mr. STARK. It wouldn't hurt homebuilding at all, would it?

Ms. NEWSOME. No, it would not.

Mr. STARK. No. It would just mean that instead of an older tree, you would have a younger one.

Do you live in a house that's built out of frame wood?

Ms. NEWSOME. No.

Mr. STARK. Do you have any doors in your house?

Ms. NEWSOME. Sure. Sure.

Mr. STARK. Got any idea what trees those doors came from?

Ms. NEWSOME. Actually they came from chestnut. Back when we still had some chestnut.

Interestingly, it was from wood that had died, and there was this wood available, and that's the reason they are chestnut.

Mr. STARK. OK.

Mr. Dower, you wanted to add something in conclusion?

Mr. DOWER. Just to your first question, which I see sort of broadly fits your second and third having to do with the earmarking of funds coming from an environmental tax, and the pros and cons of doing that.

I think I would, as an economist, support the notion of let's get the prices right, and we can separate that from the spending side of the equation.

At the same time, we do recognize, I think, that there are several types of investments that, because of the characteristic of the investment to serve a public good nature, there may not be any one industry or one firm willing to undertake that investment. And there may be appropriate roles for Federal spending or Federal encouragement, and you could identify those, particularly, say, in the energy market where it may be appropriate.

Mr. STARK. Well, I have no quarrel. I mean if the administration wants to propose research and development credit, which is a subsidy in Mr. McCloskey's eyes, and mine, that's a decision over which reasonable people could disagree. Is that good for our economy or not good for our economy? Would they do the research anyway or wouldn't they? You can argue that all day long.

But it doesn't make much sense to me to suggest that you disregard the free market when we are giving a subsidy——

Mr. DOWER. Right, right.

Mr. STARK. But the minute we say, well, let's do a tax, that's just the other end of that. Let's let the free market do all the work. I mean, say, wait a minute, if the free market has to do all the work to do the right thing on my side, why should the free market do all the work on research and development? But they want to have it one way and not the other.

It's free enterprise when they're spending it. But it ain't free enterprise when they're collecting it. So that if we were just even on that, I would be inclined to say I would be more comfortable with taxes where I can identify the behavior I want to influence exactly.

It is very hard for me to measure how much research might Hewlett-Packard have given all these things. There are a lot of de-

cisions in there that really—but I can tell you that if you double or triple the price of CFC's and there is a replacement, which there is, you suddenly make that replacement viable, you get rid of the CFC's, but you don't—I mean you don't make them impossible which might be the ultimate. And if you raise the taxes long enough, you do.

You just say soon a tax becomes a fine when it gets raised high enough and you get rid of it. And I'm inclined to think that the judicious use of tax policy ought to be helpful. And I appreciate your support in that regard.

Thank you all very much for your testimony.

The committee is adjourned until 10 o'clock tomorrow morning.

[Whereupon, at 3:40 p.m., the committee adjourned, to reconvene at 10 a.m., Wednesday, March 7, 1990.]

LONG-TERM STRATEGIES ON THE ENVIRONMENT

WEDNESDAY, MARCH 7, 1990

HOUSE OF REPRESENTATIVES,
COMMITTEE ON WAYS AND MEANS,
Washington, DC.

The committee met, pursuant to recess, at 10:03 a.m., in room 1100, Longworth House Office Building, Hon. Dan Rostenkowski (chairman of the committee) presiding.

Chairman ROSTENKOWSKI. The committee will come to order.

Will our guests please find seats?

Good morning, ladies and gentlemen. Yesterday, we held the first of 3 days of hearings on the ways in which the Federal tax system may be used to improve our Nation's environment.

We heard testimony from Members of Congress, the administration, and several environmental and business organizations. They impressed upon the committee both the seriousness of the environmental problems with which the Congress must deal and the necessity of balancing the financing of the enormous cleanup costs with the economic effect upon the businesses which must undertake such cleanup efforts.

Today, we once again have a full day of witnesses beginning with several Members of Congress. I welcome as our first witness in the order, not in seniority, but the order of importance, Mr. Sam Gejdenson, who has on occasion visited with us and given us the privilege of his vast experience. And today I want our friends in the audience to pay particular attention to what this gifted young man is going to share with us.

Mr. Gejdenson, if you will begin, the committee is ready to proceed.

STATEMENT OF HON. SAM GEJDENSON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CONNECTICUT

Mr. GEJDENSON. I thank the chairman for his kind words, and would commend him for many things that he has done, but in particular to focus in on this area where I think his committee has an opportunity to level the playing field, to provide some opportunities for American industry and consumers to move in the right direction.

And so with all the responsibilities that this committee has, to add this one I think is really a noble enterprise and, of course, a

privilege to appear before you and my colleague from Connecticut on this issue. And I will be brief.

America produces about one-half of a million tons of waste per day, more than 160 million tons per year. And of the 16,400 landfills that we presently put that garbage in, half are expected to close by the year 2000. And with sensitivity to ground water pollution and other problems associated with landfills, it will be difficult to open replacement landfills, not to mention the tremendous disposal costs which runs in the Chicago area from about $36 a ton to as much as $100 a ton on the east coast.

Forty percent of what goes into our landfills is wastepaper product. And the cities and towns around this country that are recycling paper are finding there is no market.

In today's Washington Post Metro section, the Maryland House of Delegates passed its paper recycling bill. Major cities like Chicago have yet to come on line but, once they do, the supply of recycled product will be so great that cities are going to have to pay $30 to $100 a ton to have recyclers take that product. And to give you a sense of where we are and where we have been.

We all remember the Boys Scouts and Girl Scouts collecting papers. Today, you have to pay between $25 and $35 a ton to have a recycler take your paper products. So, if the city collects it and they bundle it, they then have to pay somebody to take it away, as compared to 1970, when paper recyclers were paying $40 a ton for paper product that was brought in to them.

What H.R. 1691 does its simple, and I think you can make it better. We drafted it for the kind of broadest reach and we looked at existing regulations.

We took the Federal standard that EPA negotiated with the paper companies, for purchase of Federal paper products, and said if you don't meet those for all paper products sold in this country, then you pay a 3-percent tax. We estimate the revenue might be as much as $175 million initially. We have it go up to a 12-percent tax in 10 years if they don't meet these standards. Not that this committee is ever looking for a little extra money, but you can get two good goals here.

In the short term, you might make a few bucks. But the reality is you will create a market for recycled paper. So I would just hope the committee would take a look at this for what a small tax incentive can do to make recycled paper competitive with virgin product.

Until the 1986 Tax Act, there was an incentive to use virgin pulp. There still are tax advantages for replanting forests, tax advantages for the cost of cutting down forests. We've provided about one-third of $1 billion in subsidies for two pulp companies in the Tongass over the last decade. And what a small tax like this one would do would simply level the playing field.

If you look at the market of recycled paper today, it costs wastepaper dealers $5 a ton delivered to the facility in the United States on the east coast. Exporters pay $15 a ton for waste paper delivered to the port for export. Most of that is eaten up by handling and transportation costs.

What my bill, H.R. 1691, would do is provide a stronger market for recycled paper without a large Government bureaucracy. Eleven States are looking at, or have passed similar laws to ones

already in existence in Connecticut, California, and Florida. And in a sense, we help the industry. Instead of having 50 different standards, this committee can help develop one standard for recycled product.

I thank the committee for the indulgence of its time. We pass out a lot of costs for local governments here. They are the ones that pay the recycling fees and the garbage landfill fees. We can really help local governments bring down the cost of Government by passing this bill.

Again I thank the chairman for his gracious introduction and taking the time to look at this issue.

[The statement of Mr. Gejdenson follows:]

STATEMENT OF REPRESENTATIVE SAM GEJDENSON
BEFORE HOUSE COMMITTEE ON WAYS AND MEANS
ON
USE OF TAX SYSTEM TO HELP THE ENVIRONMENT
AND H.R. 1691

MARCH 7, 1990

MR. CHAIRMAN, I APPRECIATE THE OPPORTUNITY TO APPEAR BEFORE THIS COMMITTEE TO DISCUSS WAYS IN WHICH THE FEDERAL TAX SYSTEM COULD BE USED TO IMPROVE OUR ENVIRONMENT AND TO DISCUSS A LEGISLATIVE PROPOSAL, H.R.1691, THAT I HAVE INTRODUCED THAT DOES JUST THIS.

MR. CHAIRMAN, THIS NATION IS IN THE MIDST OF A SOLID WASTE CRISIS. AMERICANS PRODUCE MORE THAN 400,000 TONS OF WASTE PER DAY, OR MORE THAN 160 MILLION TONS OF GARBAGE ANNUALLY. ACCORDING TO THE ENVIRONMENTAL PROTECTION AGENCY (EPA), THERE ARE 16,400 LANDFILLS NATIONALLY, HALF OF WHICH ARE EXPECTED TO BE CLOSED BY THE YEAR 2000. IN ADDITION, DISPOSAL COSTS HAVE REACHED AS MUCH AS $100 OR MORE PER TON, COSTING CITIES AND MUNICIPALITIES A GREATER AND GREATER PERCENTAGE OF THEIR SHRINKING BUDGETS. CLEARLY WE MUST DO SOMETHING SOON OR THE CURRENT CRISIS WILL ONLY GET WORSE.

THE PROBLEM IS WHERE TO BEGIN. ACCORDING TO A RECENT EPA STUDY ON THE MUNICIPAL SOLID WASTE STREAM IN THIS COUNTRY, THE LARGEST SINGLE COMPONENT OF THE WASTE STREAM IS PAPER. NEARLY 40 PERCENT OF THE VOLUME OF OUR NATION'S LANDFILLS IS PAPER AND PAPER PRODUCTS. IN 1986, OVER 80 MILLION TONS OF PAPER AND PAPER PRODUCTS WERE CONSUMED IN THE UNTIED STATES, OF WHICH ONLY ABOUT 21 TONS WERE RECOVERED AND ABOUT 50 MILLION TONS WERE DISPOSED OF, PRIMARILY IN LANDFILLS. THIS REPRESENTS APPROXIMATELY 50 PERCENT OF ALL THE MANUFACTURED WASTE AND 40 PERCENT OF ALL MUNICIPAL SOLID WASTE IN THE UNITED STATES.

MANY STATES AND MUNICIPALITIES, INCLUDING MY HOME STATE OF CONNECTICUT, ARE ATTEMPTING TO REDUCE THE AMOUNT OF PAPER DISPOSED OF IN THEIR LANDFILLS THROUGH MANDATORY AND VOLUNTARY RECYCLING PROGRAMS. UNFORTUNATELY, THE MARKETS FOR THIS WASTEPAPER ARE JUST NOT THERE. CITIES AND COMMUNITIES ALL ACROSS THE COUNTRY, FROM GROTON, CONNECTICUT, TO MINNEAPOLIS, MINNESOTA TO TOLEDO, OHIO TO NEW YORK CITY, WHO, ONLY A YEAR AGO, WERE ABLE TO SELL THEIR WASTEPAPER COLLECTED IN THEIR RECYCLING PROGRAMS TO WASTE BROKERS FOR $30 OR MORE PER TON, NOW ARE HAVING TO PAY TO HAVE THEIR WASTEPAPER HAULED AWAY.

FOR YEARS, NON-PROFIT GROUPS, LIKE THE BOYS SCOUTS, CHURCH GROUPS AND THE OMAHA RECYCLE FOR WILDLIFE CAMPAIGN, HAVE DEPENDED ON THE REVENUES THEY RECEIVE FROM COLLECTING AND SELLING WASTEPAPER. NOW, THAT SOURCE OF REVENUES HAS DISAPEARED. IN ADDITION, TOWNS AND OTHER COMMUNITIES WHICH INSTITUTED RECYCLING PROGRAMS AS A SOLUTION TO DECLINING LANDFILL SPACE ARE RECONSIDERING THEIR RECYCLING PROGRAMS BECAUSE THEY ARE NO LONGER ECONOMICALLY VIABLE.

IN ADDITION, ACCORDING TO THE AMERICAN PAPER INSTITUTE, THIS PAPER GLUT ONLY PROMISES TO GET WORSE. THEY PREDICT THAT SO MUCH WASTE PAPER WILL SOON FLOOD THE MARKET THAT SOME OF IT MAY END UP BEING DUMPED IN LANDFILLS. THIS WOULD FURTHER EXACERBATE AN ALREADY DEVELOPING CRISIS AND WILL DISCOURAGE OTHER COMMUNITIES FROM INITIATING OR EXPANDING THEIR RECYCLING PROGRAMS.

TO ADDRESS THIS PROBLEM AND HELP CREATE STRONGER AND MORE STABLE MARKETS FOR WASTEPAPER, I HAVE INTRODUCED H.R. 1691. LEGISLATION WHICH WOULD ESTABLISH MINIMUM RECYCLED FIBER CONTENT STANDARDS FOR ALL PAPER AND PAPER PRODUCTS THAT ARE SOLD IN THE UNITED STATES AND WILL ENCOURAGE PAPER MANUFACTURERS TO USE MORE RECYCLED FIBERS IN THE PAPER THEY PRODUCE.

THIS LEGISLATION IS BASED ON RECYCLED FIBER CONTENT STANDARDS DEVELOPED BY THE EPA, IN CONJUNCTION WITH THE PAPER MANUFACTURERS TO SERVE AS GUIDELINES FOR RECYCLED FIBER CONTENT OF PAPER PURCHASED BY THE FEDERAL GOVERNMENT. H.R. 1691 WOULD SIMPLY REQUIRE PAPER MANUFACTURERS TO USE THE SAME PERCENTAGES FOR ALL PAPER SOLD DOMESTICALLY. UNDER THIS PROPOSAL, PAPER MANUFACTURERS, PRODUCERS AND IMPORTERS WOULD ALSO BE REQUIRED TO PAY A NON-COMPLIANCE TAX FOR THE PAPER THAT DOES NOT MEET THE ESTABLISHED GUIDELINES.

UNDER THIS BILL, PAPER MANUFACTURERS WILL BE REQUIRED TO PAY A TAX OF 3 PERCENT OF THE SELLING PRICE FOR THE PAPER THAT DOES NOT MEET THE STANDARD. IN SUBSEQUENT YEARS, THIS TAX WILL INCREASE BY ONE PERCENT ANNUALLY FOR TEN YEARS, UNTIL IT REACHES 12 PERCENT.

MR. CHAIRMAN, WHEN THIS LEGISLATION WAS INTRODUCED IN APRIL, 1989, I INTENDED TO GIVE PAPER MANUFACTURERS AMPLE TIME TO COMPLY. THE CONTENT STANDARDS AND THE NON-COMPLIANCE TAX WERE SCHEDULED TO GO INTO EFFECT IN 1991 OR TWO YEARS AFTER THE LEGISLATION IS ENACTED. IN ORDER TO PRESERVE THIS INTENT, SIMPLE TECHNICAL CHANGES MAY BE REQUIRED.

THE CONTENT STANDARDS USED IN H.R. 1691 WOULD GIVE THE PAPER MANUFACTURERS A CLEAR SENSE OF DIRECTION AND THE TAX WOULD PROVIDE AN ECONOMIC INCENTIVE FOR MANUFACTURERS TO MEET THE STANDARDS AND USE MORE RECYCLED FIBERS IN THE PAPER THEY PRODUCE.

THIS LEGISLATION WILL ALSO BRING UNIFORMITY TO THE RECYCLED FIBER CONTENT STANDARDS THAT PAPER MANUFACTURERS WILL REQUIRED TO MEET. SINCE LAST YEAR, THE STATES OF CONNECTICUT, CALIFORNIA AND FLORIDA HAVE PASSED LAWS REQUIRING NEWSPRINT AND PAPER TO HAVE A MINIMUM AMOUNT OF RECYCLED FIBERS TO BE SOLD IN THEIR STATES. IN ADDITION, LEGISLATURES IN A NUMBER OF STATES INCLUDING MARYLAND, NEW JERSEY, NEW YORK, WISCONSIN, RHODE ISLAND AND THE DISTRICT OF COLUMBIA HAVE ALL BEEN CONSIDERING LEGISLATION TO MANDATE INCREASED PERCENTAGES OF RECYCLED FIBERS IN THE NEWSPRINT AND PAPER SOLD IN THAT PARTICULAR. AS MORE AND MORE OF THESE BILL ARE ADOPTED, PAPER MANUFACTURERS WILL FACE A NIGHTMARE OF DIFFERENT STANDARDS TO COMPLY WITH IF THEY WOULD CONTINUE TO DO BUSINESS IN THESE DIFFERENT STATES. H.R. 1691 WILL BRING A UNIFORM STANDARD FOR PAPER AND PAPER PRODUCTS NATIONWIDE.

MR. CHAIRMAN, THE FEDERAL TAX CODES AND OTHER FEDERAL TIMBER GIVE PAPER MANUFACTURERS WHO USE VIRGIN TIMBER FOR PAPER PULP A DEFINITE ADVANTAGE OVER MANUFACTURERS USING RECYCLED FIBERS FOR PAPER PULP. SPECIAL TAX TREATMENT OF CAPITAL GAINS FROM TIMBER SALES, EXPENSING OF MULTI-PERIOD GROWING COSTS, INVESTMENT CREDITS FOR REFORESTATION EXPENDITURES AND THE ABILITY TO AMORTIZE REFORESTATION EXPENSES FOR SEVEN YEARS HAVE PROVIDED A SIGNIFICANT ECONOMIC ADVANTAGE TO THE TIMBER INDUSTRY AND HAVE RESULTED IN LOSSES OF REVENUE TO THE TREASURY.

IN ADDITION, BELOW-COST TIMBER HARVESTS IN NATIONAL FORESTS, FOREST SERVICE COST-SHARING ASSISTANCE PROGRAMS WITH PRIVATE LANDOWNERS, AND THE $40 MILLION PERMANENT APPROPRIATION FOR TIMBER SALES IN THE TONGASS NATIONAL FOREST IN ALASKA HAVE PROVIDED ADDITIONAL ADVANTAGES TO MANUFACTURERS OF PAPER WITH VIRGIN PULP AT TAXPAYERS EXPENSE. IN THE TONGASS NATIONAL FOREST, HOLDERS OF LONG-TERM CONTRACTS PAY BARGAIN BASEMENT PRICES FOR TIMBER FOR PULP AT THE EXPENSE OF THE TREASURY AND THE ENVIRONMENT. IT IS ESTIMATED THAT BETWEEN 1980 AND 1986, THE FEDERAL GOVERNMENT LOST IN EXCESS OF $250 MILLION IN TIMBER REVENUES FOR THE TONGASS.

MY LEGISLATION WILL TAKE STEPS TO REMOVE THIS INEQUITY THAT MANUFACTURERS OF PAPER USING RECYCLED FIBERS HAVE TRADITIONALLY FACED. MORE IMPORTANTLY, IT WILL ENCOURAGE ALL OTHER MANUFACTURERS OF PAPER AND PAPER PRODUCTS TO TAKE BACK SOME OF THE WASTEPAPER THAT THEY GENERATE.

IN CONCLUSION, MR. CHAIRMAN, ENACTMENT OF H.R. 1691 WILL TAKE A NUMBER OF IMPORTANT STEPS TOWARDS RESOLVING OUR SOLID WASTE PROBLEMS. NOT ONLY WILL IT HELP CREATE STRONGER AND MORE STABLE MARKETS FOR RECYCLED PAPER, IT WILL REDUCE THE VOLUME OF PAPER IN OUR WASTE STREAM. IT WILL BRING NATIONWIDE UNIFORMITY TO RECYCLED FIBER CONTENT STANDARDS. IT WILL ENCOURAGE THE CONSERVATION OF OUR NATURAL RESOURCES. IT WILL LEVEL THE PLAYING FIELD FOR PAPER MANUFACTURERS WHO USE RECYCLED FIBERS IN THE PAPER THEY PRODUCE AND IT WILL SHOW COMMUNITIES THAT RECYCLING CAN AND SHOULD BE THE MOST ECONOMICAL AND ENVIRONMENTALLY SOUND LONG-TERM SOLUTION TO OUR NATION'S SOLID WASTE PROBLEMS.

Chairman ROSTENKOWSKI. Before we continue, the Chair is certainly interested in the time that you spend here with our committee. And I know that the members are very busy.

I would like to leave the option to you, if any of you would like to stay and remain and discuss these things with us, we would be perfectly willing. If, however, you have other engagements after your testimony, we understand. You may leave.

But before anybody leaves, I would like to ask one other question.

Do you, Mr. Gejdenson, have any other suggestions as to how we can raise revenue? I mean do you think about a gas tax or do you think about elimination of what's known as the bubble? Is there any other recommendation you can make to this committee?

And I am going to ask each of you, is there any other recommendation in revenues that you think we can come up with.

Mr. GEJDENSON. That's a good question because we are all very quick as Members of Congress to propose cuts in taxes and places to spend money on programs. This one would give you some revenue.

I think also we ought to take a look at a gambling tax. A gambling tax could raise as much as $11 billion without touching State lotteries. And frankly, Mr. Chairman, as I have discussed in the past, I would exempt State lotteries and all gambling revenues from Federal taxes, provide a 1-percent fee for registration if you win so they can't use it for money laundering, and then take a 10-percent gross tax.

The advantage to the States and casinos would be they could advertise that when you win a million bucks, you win a million bucks, not a million less a third. I would commend to the chairman that he get rid of the bubble as well.

Chairman ROSTENKOWSKI. Thank you, Mr. Gejdenson.

Mrs. KENNELLY. Mr. Chairman, could I ask Mr. Gejdenson some questions before he leaves?

Mr. Gejdenson, I have, obviously being from your State and working with you so closely, I've analyzed your proposal and I find it interesting. But just a few questions I thought of while preparing for this hearing last night.

Do you think the infrastructure is in place to produce usable recycled paper so that it would be there to be purchased so the manufacturers could do what you want them to do to avoid the tax?

Mr. GEJDENSON. It's an excellent question, and not the first time, I am sure, my colleague from Connecticut has asked an excellent question.

But initially when we put this legislation in, one of the arguments against it by the industry was, hey, we don't have the ability to do this.

Well, if you take a look at what's happened just in the last several years, as States have passed these recycling measures, we have three new plants on line, or in the process of being built, announced by companies to build deinking plants and use recycled paper. Two more are scheduled to be announced or converted to recycled paper both here and in Canada. And we have mills already that, for some time, in the New York area, have used nothing but recycled paper to make newsprint.

It is feasible, it is happening. And it was something the industry would throw up as a red herring. But it is certainly easily doable. One of the problems in our present system is that the New York Times is printed in New Jersey and the people in Hartford pay the landfill costs for the Sunday New York Times. There is no cost in New Jersey. And that is one of the reasons that I think we need this incentive to bring the product back to the original manufacturers of postconsumer paper.

I think frankly when you look at this bill, mine is a very modest attempt. With the changes that have happened in the last year since we drafted this, it could be a much tougher bill.

Mrs. KENNELLY. So the recycled paper would be available and as a result, your proposal would not be much of a revenue raiser if it's successful in achieving your environmental goal?

Mr. GEJDENSON. It would decline clearly. Whatever money you've got in the beginning would decline rapidly as the industry adjusted to take it in.

Our goal here is not just simply to tax the industry. Our goal is to provide them the incentive to use recycled product rather than virgin product.

Mrs. KENNELLY. One last question, Mr. Gejdenson.

Connecticut has passed a piece of legislation insisting that a greater amount of recycled newsprint be used.

Have you got any results from that piece of legislation yet in terms of increased use?

Mr. GEJDENSON. What we're seeing is the pressure is downward on the price of recycled paper. So, as more and more States pass their laws, we've got—in Groton, they're not recycling paper any more. They are bundling it and warehousing it because the markets have disappeared, hey, if I'm a purchaser of paper, and I need recycled paper, it doesn't take a genius to figure out that the city has got to pay $36 to $100 a ton to burn it or bury it, that the city will pay me between $25 and $75 a ton to take it off their hands. I'll save them money by charging them that kind of cost. We can save—and there's no reason for it.

The paper companies make money paying a reasonable price for it. And by this tax, we can give them an incentive to look at recycled paper the same way they look at virgin pulp.

Thank you.

[The following was subsequently received:]

SAM GEJDENSON
2D DISTRICT
CONNECTICUT

COMMITTEE ON
FOREIGN AFFAIRS
CHAIRMAN,
SUBCOMMITTEE ON INTERNATIONAL
ECONOMIC POLICY AND TRADE

COMMITTEE ON INTERIOR
AND INSULAR AFFAIRS

COMMITTEE ON HOUSE
ADMINISTRATION

MEMBER,
DEMOCRATIC STEERING AND
POLICY COMMITTEE

MAJORITY WHIP AT LARGE

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March 9, 1990

Honorable Dan Rostenkowski
Chairman
Committee on Way and Means
1102 Longworth HOB
Washington, DC 20515

Dear Chairman Rostenkowski:

I appreciate the opportunity to appear before the Ways and Means Committee to discuss ways in which the Federal Tax system could be used to improve the environment and a legislative proposal, H.R. 1691, that I have introduced to do just this.

Earlier this year, I requested, from the Joint Committee on Taxation, a revenue estimate for the enactment of H.R. 1691, which would impose an excise tax on sales of virgin paper materials. After appearing before the Committee, I received the estimate and would appreciate having it appear in the hearing record along with my statement. The revenue figure that I gave in the course of my testimony was a very rough estimate and did not reflect the information that I have since received.

Again, I appreciate the opportunity to discuss my proposal. If there are any questions or problems, please do not hesitate to contact me or James Hess of my staff at 5-2076.

Sincerely,

SAM GEJDENSON
Member of Congress

THIS STATIONERY PRINTED ON PAPER MADE WITH RECYCLED FIBERS

[illegible]

[illegible]

Congress of the United States
JOINT COMMITTEE ON TAXATION
1018 LONGWORTH HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6453
(202) 225-3621

[illegible]

MAR 7 1990

Honorable Sam Gejdenson
United States House of Representatives
1410 Longworth Building
Washington, D.C. 20515

Dear Congressman Gejdenson:

This is in response to your request dated December 22, 1989, for a revenue estimate imposing an excise tax on sales of virgin paper materials.

The proposal would impose an excise tax on paper and paper products that do not meet minimum recycled fiber content standards to be set by the Environmental Protection Agency (EPA). The tax rate would be 3% of the manufacturer's sale price in 1991, with the rate rising by 1 percentage point per year until it reached 12 percent for the year 2000 and all future years. The proposal would become effective after December 31, 1990.

The estimate below assumes that current EPA newsprint guidelines apply to all paper products. Such guidelines define recycled newsprint as containing at least 40 percent recycled fibers. We estimate that the proposal would increase Federal revenues by the following amounts:

Fiscal Years					
[Billions of Dollars]					
1991	1992	1993	1994	1995	1991-95
0.3	0.6	0.8	1.0	1.2	3.9

I hope this information will be helpful to you. If we can be of any further assistance, please let me know.

Sincerely,

Ronald A. Pearlman

Chairman ROSTENKOWSKI. Thank you, Mr. Gejdenson.

As I suggested, to the Members who have just arrived, if, at the conclusion of your testimony, you could give us an idea of other taxes that we could raise, I won't ask any questions. I would just like you to volunteer to tell us what other taxes you think would be palatable on the floor of the House of Representatives and with your constituents that we could raise.

Mr. Bustamante.

STATEMENT OF HON. ALBERT G. BUSTAMANTE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. BUSTAMANTE. Thank you, Mr. Chairman.

To the ranking member, Mr. Archer, to committee members, it is a pleasure for me to appear before you today. And I am pleased to address this hearing on long-term strategies for the environment.

As you know, my district cuts a downward path from San Antonio down to Laredo. The individuals in my district are like individuals from around the country who are very interested in cleaner air and changes in the global climate.

If you think August in Washington is hot you ought to come down some summer to Cotulla or Laredo where global warming takes on a true meaning. But, for many along the Texas-Mexico border, the issue is one of economics before you can tackle clean water, adequate sewage treatment plants in squatter communities called "colonias," industrial polluters, and basic health services. That is why I am here today.

I am here to urge your committee, Mr. Chairman, to extend the tax credit for producing nonconventional fuels, and to restore it for tight sands gas. There are substantial proven reserves of tight sands gas located in Zavala and Webb Counties and other surrounding counties in my district.

Tight sands gas occurs in geological formations of varying complexity, such as blanket or lenticular formations. Blanket formations contain sandstones that are single, continuous, gas-bearing zones of generally uniform thickness which extend over a large area. Lenticular formations are gas-bearing zones having multiple discontinuous sandstone lenses scattered throughout a zone. And, believe me, drilling for it is a lot harder than saying it.

The Gas Research Institute and the National Petroleum Council estimate that domestic tight sands gas in place is about 950 trillion cubic feet [TcF]. Depending on price and technology, the amount of recoverable tight sands gas is between 100 and 590 trillion cubic feet.

The Center for Enterprising at Southern Methodist University estimates that a 1-trillion cubic feet increase in natural gas will create over 110,000 jobs by 1992. An estimated 58,400 jobs in fabrication of rigs and manufacturing of tubular goods, related machinery and instrumentation; 22,400 jobs in production and field services, and 29,200 jobs in consulting, accounting, and legal services, data processing, industrial distribution, and other services. A 1-trillion cubic feet increase in natural gas demand by 1992 would contribute an additional $1.8 billion in gross output and boost personal income by $3 billion.

That prospect could have a significant and positive impact on the local economies in south Texas. At the end of December 1989, the date for which the latest unemployment rates for Texas are available, Webb County reported about a 10-percent unemployment rate; Zavala County, 14.5 percent; Starr County, 41 percent; Maverick County, 30-percent unemployment; and Dimmit County posted a 12-percent unemployment rate. In fact, most south Texas counties recorded double-digit unemployment rates, and it is principally Mexican-Americans who are without jobs.

These rates of unemployment are unacceptably high, but I should point out to the committee the irony that the economies of south Texas counties are on the upswing. Over the past year, south Texas has begun to recover from a 6- to 7-year recession that started with the Mexico peso devaluation in August 1982, and was prolonged when world energy prices fell through the floor in January 1986.

Even though south Texas is beginning an economic rebound, the simple fact remains that there are simply not enough jobs to go around.

The extension of the nonconventional fuels credit could bring substantial jobs and economic development to one of the most economically hurt and neglected regions of our country.

And on a related note, I am also concerned with the Federal Energy Regulatory Commission's recent order 519 to eliminate the incentive price for tight sands gas. This order has had the effect of eliminating the tax credit for tight sands gas on May 12, 1990, almost 10½ years before the expiration date set by Congress.

I ask that the committee take special action to override FERC's action and to reinstate the fuel credit for tight sands gas.

I would also like to add that I am a cosponsor of Representative Mike Andrews' bill to provide incentives for alternative fuel vehicles like those run on compressed natural gas. In a State like Texas, that is both urban and rural, I strongly support a program to encourage fleet owners to develop new fueling stations and to convert or purchase vehicles which run on clean fuels. Gradually, I am convinced that such a plan will lead consumers to demand cleaner fuels for their cars. Such a strategy is long overdue and necessary.

In closing, Mr. Chairman, let me add that as we approach the celebration of Earth Day, and await the President's national energy security plan, there is no doubt in my mind that natural gas is a logical cornerstone for domestic energy security and serves as a practical strategy for the economic revitalization of areas like south Texas.

Again, thank you, Mr. Chairman, and I thank the committee members.

Chairman ROSTENKOWSKI. Thank you, Mr. Bustamante.

Mr. McDermott.

STATEMENT OF HON. JIM McDERMOTT, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WASHINGTON

Mr. MCDERMOTT. Mr. Chairman, thank you very much for inviting us to come before you.

It is a pleasure for me to be here to discuss the environmental impact of Federal tax policy. This morning's topic is indeed broad, and I would like to focus my concerns rather narrowly on the subject of how the Federal Tax Code affects the use of mass transit, the provision of which is subsidized by the Federal Government.

There are three basic conclusions one can draw regarding the current impact of the Federal Tax Code on mass transit:

Federal environmental, transportation, and tax policies are inconsistent.

The tax treatment of mass transit benefits fails to protect the investment made in mass transit by American taxpayers.

And the Federal tax policy, as it affects mass transit users, is unfair.

Just the other day, our colleagues in the other body announced a major agreement to advance enactment of Clean Air Act amendments this year. I am pleased to note with some confidence that 1990 will be the year when the 10-year stalemate over Clean Air Act reauthorization will be broken.

Legislation, both in the House and the Senate, include provisions to reconcile future planning in transportation and the environment. It is vitally important that we consider the impact on the environment when making transportation choices at all levels of Government. What we essentially say in the Clean Air Act is that nonattainment areas need to take steps to improve their environmental performance at pain of losing Federal transportation dollars.

It is widely recognized that curtailing pollution which emerges from the tailpipes of our automobiles is an effective but ultimately limited means of cleaning up the air. The more cars we put on the road, the more pollution we have to clean up. The typical auto commuter trip generates 23 times more carbon monoxide exhaust than a comparable trip on a diesel buys. If we are not to constantly be taking two steps forward and one step back, we need to reduce the number of miles vehicles travel on our roads, streets, and highways. We need to increase the number of passengers that travel per vehicle. In short, we need to make far better use of mass transit, carpooling, van pooling, and other strategies which increase the number of passengers per vehicle.

It is my hope that the extension of the Clean Air Act in 1990 will finally have environmental and transportation policymakers pulling their oars in the same direction.

But then along comes the Federal tax policy.

If you work in downtown Washington, DC, and drive your car to work alone, you will pay about $7 to $8 per day to put your car in a commercial parking lot. Under current tax policy, your employer can provide you with a parking spot in that lot as a tax-free fringe benefit, and many employers in this city do exactly that.

If you live along a Metro line, and decide to take the train or a bus, you may pay as much as $2.50, depending on the distance, to get to and from work, a cost of about $12.50 per week, or $50 a month. But if you take the bus or train, you can only claim $15 in any month as a tax-free fringe benefit. And if your employer chooses not to segment that $15 as your transportation benefit, you receive no tax benefit whatsoever.

In Seattle, nearly 300 employers pay all or a portion of the cost of their employees' bus passes. Twenty-three thousand individuals obtain their monthly bus passes through this program. If citizens of our Nation's capital region, or in my hometown are sensitive to the need to reduce traffic congestion and auto emission pollution, they might well decide to make the socially conscious decision to take Metro. But Federal tax policy penalizes that choice.

In sum, Mr. Chairman, in this city and cities around the country, the Federal Tax Code rewards those who make the choice to drive to work alone. We pay people to pollute.

Last week, the Washington State Legislature began to buck this trend by authorizing local commuter parking taxes, and by requiring that local governments give employers who subsidize transit passes a credit against a new transportation tax on employers.

It is high time that we here in Washington, DC, begin to pull all our oars—transportation, environmental, and tax policy—in the same direction to make our Nation's surface transportation work efficiently and clean up our air.

Mr. Chairman, in fiscal 1990, the Congress authorized just over $3 billion to assist State and local governments in the provision of mass transit services. In Seattle, we received $197 million as the Federal share of a $400 million bus tunnel, which is considered one of the most innovative and cost-effective mass transit projects in the country. Downtown Seattle business interests, strong supporters of rational transportation options for our Seattle region, contributed about $30 million to the bus tunnel project.

But we continue to find that the bookkeeping necessary for businesses to compute exactly $15 per month in transit benefits, when the monthly commutation cost is around $42 is burdensome. For many businesses, providing a discreet transit pass with no more than $15 is simply not worth the hassle.

The so-called cliff provision which renders transit benefits which exceed $15 totally taxable is a real disincentive to providing these benefits to employees.

Having spent $400 million in Federal, State, and local taxpayer money to produce an impressive mass transit in Seattle, I think we have a responsibility to protect that investment. One sure way to protect that investment is to ensure that we remove existing disincentives to use the system. The present configuration of the Federal Tax Code, the cliff provision, and the limit of $15 a month is a clear disincentive to use mass transit.

Finally, Mr. Chairman, the social impact of the present tax treatment of mass transit is perverse.

In a city like New York, for example, an executive on Wall Street can drive his car in from upstate New York, Long Island, New Jersey, or Connecticut, complete with car phone, and park it for a very stiff fee. The cost of that parking will be tax-free income to the executive.

In the same city, the cleaning crew which comes in after hours via subway to wash the floors, or the secretary who makes the trip to type the executive's letters will receive no such tax benefit.

Under the present tax treatment of mass transit, the rich get richer and the poor take the bus and pay full fare.

Mr. Chairman, in Seattle, we are relatively young in terms of establishing our mass transit system as compared to the older eastern cities. Collectively, our State and local governments, the environmental community, and a farsighted business community are trying to get all parties to pull oars in the same direction. Our goal is to move people efficiently at minimal cost to our environment.

To accomplish our goal, a change in Federal tax policy, as it impacts on the use of mass transit is essential. I hope that 1990, the year of the Clean Air Act reauthorization, is also the year we bring some sense of rationality to tax policy as it affects mass transit.

In answer to your question, I am new, so I do not know exactly what will work on the floor of the House. But I do believe this——

Chairman ROSTENKOWSKI. Mr. McDermott, your vote is as heavy as mine on the floor of the House. [Laughter.]

Mr. MCDERMOTT. You're much too humble, Mr. Chairman. I will always follow your lead.

But I will say this. The only reason Mr. Bush says he is the environmental President is because the polls clearly say the American people are interested in cleaning up the environment.

I think the American people will accept some tax related to cleanup of the environment, including the kinds of proposals that have been made here. Precisely which one it is, I think I will listen to your counsel on that matter.

[The statement of Mr. McDermott follows:]

Testimony of Congressman Jim McDermott (D-WA)

before the House Committee on Ways and Means

March 7, 1990

Mr. Chairman, members of the committee, it is a pleasure for me to be here this morning to discuss the environmental impact of federal tax policy. This morning's topic is indeed broad and I would like to focus my concerns rather narrowly on the subject of how the federal tax code affects the use of mass transit, the provision of which is subsidized by the federal government.

There are three basic conclusions one can draw regarding the current impact of the federal tax code on mass transit:

1. Federal environmental, transportation and tax policies are inconsistent.

2. Tax treatment of mass transit benefits fails to protect the investment made in mass transit by American taxpayers.

3. Federal tax policy, as it affects mass transit users, is unfair.

Mr. Chairman, allow me to address each of these conclusions:

Inconsistency of Federal Policy

Just the other day, our colleagues in the other body announced a major agreement to advance enactment of Clean Air Act amendments this year. I am pleased to note with some confidence that 1990 will be the year when the 10 year stalemate over Clean Air Act reauthorization will be broken.

Legislation in the both the House and the Senate includes provisions to reconcile future planning in transportation and the environment. It is vitally important that we consider the impact on the environment when making transportation choices at all levels of government. What we essentially say in the Clean Air Act is that nonattainment areas need to take steps to improve their environmental performance at pain of losing federal transportation dollars.

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In Seattle, nearly 300 employers pay all or a portion of the cost of their employees' bus passes. 23,000 individuals obtain their monthly bus passes through this program.
If citizens of our nation's capitol region or in my hometown are sensitive to the need to reduce traffic congestion and auto emission pollution, they might well decide to make the socially conscious decision to take METRO, but federal tax policy penalizes that choice. In sum, Mr. Chairman, in this city and cities around the country, the federal tax code rewards those who make the choice to drive to work alone. We pay people to pollute.

Last week, the Washington State Legislature bagan to buck this trend by authorizing local commuter parking taxes and by requiring that local governments give employers who subsidize transit passes a credit against a new transportation tax on employers.

Mr. Chairman, it is high time that we here in Washington, D.C. began to pull all our oars (transportation, environmental and tax policy) in the same direction to make our nation's surface transportation system work efficiently and clean up our air.

Protecting the Federal Investment in Mass Transit

Mr. Chairman, in Fiscal 1990, the Congress appropriated just over $3 billion to assist state and local governments in the provision of mass transit services. In Seattle, Washington, we have received $197 million as the federal share of a $400 million bus tunnel which is considered one of the most innovative and cost effective mass transit projects in the country. Downtown Seattle business interests, strong supporters of rational transportation options for our Seattle region, contributed about $30 million to the bus tunnel project.

In Seattle, we have struggled to make the existing allowance of $15 per month for mass transit benefits work for our commuters and, I think it can be said that we have made it work as well as anyone. Presently, about 300 employers participate in a program to enhance the use of transit passes. But, we continue to find that the bookkeeping necessary for business to compute exactly $15 per month in transit benefits when the monthly commutation cost is around $42 is burdensome. For many businesses, providing a discrete transit pass worth no more than $15 is simply not worth the hassle.

Mr. Chairman, the so-called "cliff provision" which renders transit benefits which exceed $15 totally taxable is a real disincentive to providing these benefits to employees.

Having spent $400 million in federal, state and local taxpayers money to produce an impressive mass transit system in Seattle, I think we have a responsibility to protect that investment. One sure way to protect that investment is to insure that we remove existing disincentives to use the system. The present configuration of the federal tax code, the "cliff provision" and the limit of $15 per month is a clear disincentive to use mass transit.

The Lack of Equity

Mr. Chairman, the social impact of the present tax treatment of mass transit if perverse.

In a city like New York, for example, an executive on Wall Street can drive his car in from upstate New York, Long Island, New Jersey or Connecticut, complete with car phone, and park it for a very stiff fee. The cost of that parking will be tax-free income to the executive.

In the same city, the cleaning crew which comes in after hours, via subway, to wash the floors or the secretary who makes the trip to type the executive's letters will receive no such tax benefit.

Under the present tax treatment of mass transit, the rich get richer and the poor take the bus and pay full fare.

Summary

Mr. Chairman, in Seattle, we are relatively young in terms of establishing our mass transit system as compared to the older Eastern cities. Collectively, our state and local governments, the environmental community and a far-sighted business community, are trying to get all parties to pull the oars in the same direction. Our goal is to move people efficiently at minimal cost to our environment.

To accomplish our goal, a change in federal tax policy as it impacts on the use of mass transit is essential. I hope that 1990, the year of the Clean Air Act reauthorization, is also the year we bring some sense of rationality to tax policy as it affects mass transit.

Thank you, Mr. Chairman.

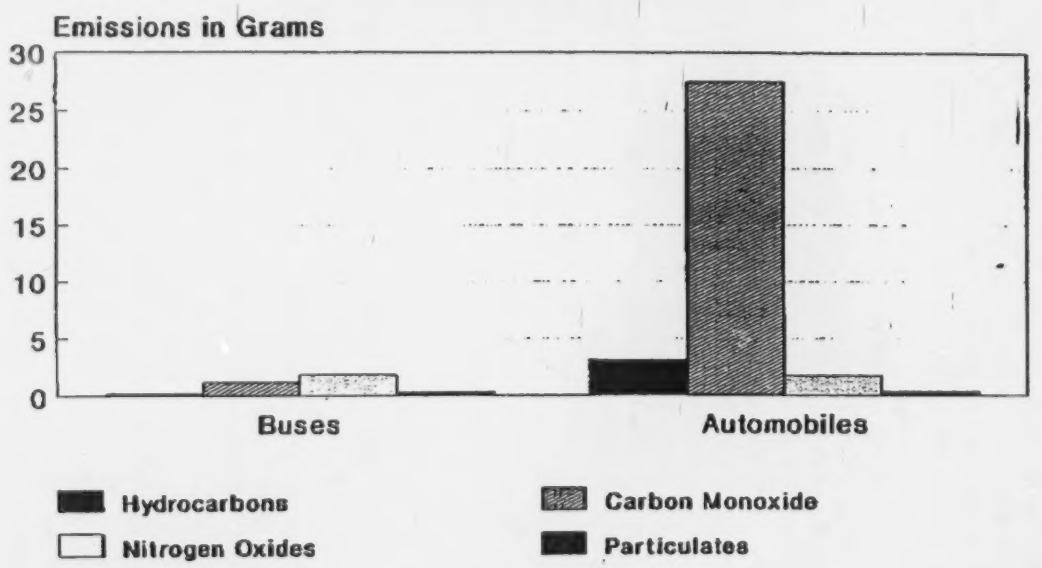
FACT SHEET
EMPLOYER SUBSIDY PROGRAM as of 12-31-89
Numbers add up to success

Employee Access	Employees with access to subsidy	150,000
Subsidizers	Number of subsidizers	288*
	Subsidizers by district:	
	Northend/Capitol Hill	81
	Eastside	30*
	Southeast	3
	Southwest	16
	Seattle CBD	158
	New subsidizers year to date (1989)	37
Revenues	Average monthly subsidy revenue (est.)	$650,000
	Average monthly subsidy sales (est.)	22,900
	Subsidy sales as percent of total pass sales	58%
Participation Levels	Employers subsidizing 100%	44
	Employers subsidizing $15 or more	107
	Average subsidy of pass price	50%
	Employers selling 3-month passes	65
	Employers selling annual passes	33
Annual Pass Discount	Employers participating in special annual pass program allowing for ridership based discounts per fare (reso. #5825): Seafirst & Swedish Medical Center	2
MOA's	Conditioned Sites with Memorandums of Agreement (MOA's) requiring subsidy	10
Vanpools	Vanpoolers applying subsidy to fare	302
Metro Lobby Effort	Firms who lobby for Metro regarding transportation issues: AT&T, Boeing, City of Seattle, Fred Hutchinson, Immunex, King County, Port of Seattle, Providence Hospital, Puget Power, Seafirst, Security Pacific, Swedish Medical Center, Univar, US West/Communications	16

* Includes Bellevue CBD employers not formally on program but recruited by Bellevue TMA

METRO

Comparative Emissions
Per Passenger Mile



Passenger mile assumes
10.9 persons per bus
1.2 persons per automobile

Chairman ROSTENKOWSKI. Mr. McDermott, the problems that we sit here and have is—we're going to get a recommendation by our peers on the Budget Committee, and they're going to suggest that we raise $14 billion. And we, here of course, take the first bite of that apple. And as long as you've taken your precious time to share it with us, I just thought that maybe you would like to sit with us here for a minute and give us some recommendations.

Mr. MCDERMOTT. I'll be right with you to help lift the burden.

Chairman ROSTENKOWSKI. Thank you, Mr. McDermott.

Mr. Gibbons. Go ahead.

No, we're not asking questions until we've concluded, unless you've got some oneliners. Because we are going to have to go over to the floor. [Laughter.]

Mr. GIBBONS. Do you have any victims who want to pay more taxes, that's what we're asking? All these people out in the audience are not especially on your side in that regard.

Mr. MCDERMOTT. I think the American people really are willing to pay some more taxes to clean up the environment.

Chairman ROSTENKOWSKI. Well, I do too. The question is can we get the representatives enough steel in their stomach to support that.

Mr. Visclosky.

STATEMENT OF HON. PETER J. VISCLOSKY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF INDIANA

Mr. VISCLOSKY. Mr. Chairman, thank you. I would first ask that my entire statement be entered in the record.

Chairman ROSTENKOWSKI. Without objection, all the members' statements in their entirety will be included in the record.

Mr. VISCLOSKY. Mr. Chairman, last Thursday, I introduced the Right to Safe Drinking Water Act of 1990, H.R. 4172 to address the alarming effect of our Tax Code. My legislation will allow a utility to exclude from its gross income for Federal income tax purposes a contribution in aid of construction received for water main extensions in cases where public health is threatened by ground water contamination. The exemption will apply only to cases where the donation of dollars or property is received from a governmental entity, and it will only pertain to circumstances where existing wells have become contaminated.

My legislation responds to a growing nationwide problem. I would, however, like to focus on a situation in the district I represent that painfully illustrates the effects section 118 can have on a community and its residents.

The Lake Sandy Jo Superfund site is located in Gary, IN. The solid waste that accumulated in this one-time landfill have now seeped into the surrounding environs, contaminating nearby ground water, and threatening the health of area residents.

The EPA determined that it was necessary to bring in a safe water supply by extending water mains to this neighborhood. Plans for construction were initiated in 1986, but the project was put on hold because of the tax liability due to the new section 118, totaling over $522,000.

The various Federal and State agencies haggled for 3 years about who was going to pay this tax. The local utility refused to take the new water mains until it was certain that the section 118 tax would be covered. EPA indicated that it could not use Superfund money for the sole purpose of paying the tax. The State of Indiana was also unwilling to pick up the tax.

Three years later, only after protracted negotiations and pressure, a resolution was reached. It is ironic that, in the end, 90 percent of this Federal tax will be paid by the Federal Government. Lake Sandy Jo is only one example of many situations.

I recently learned of a case in Lowell, IN, where the utility refused to proceed with a project to bring safe water to an area with dangerously high fluoride levels until they are certain that the section 118 tax will be taken care of. I am also aware of several cases in New Jersey, and I am sure there are other examples throughout the country.

I would urge the members of the Way's and Means Committee to give serious consideration to my legislation when examining section 118 modifications.

I would point out for the record that an unofficial cost estimate of the proposal is approximately $15 million over 6 years. This number is derived from a Congressional Budget Office study done on H.R. 118, Congressman Matsui's bill, to reinstate tax exempt status for all CIAC's. The total cost of the Matsui bill is $600 million. When broken down, revenue loss from CIAC's to water utilities amounts to $15 million over 6 years.

Mr. Chairman, in response to your general question to all members of the panel, I, first of all, commend you for raising the question in terms of the tax question involved in budget reduction deficits. I would point out, first of all, that I don't think this is the time for a tax cut.

Second, in terms of this member's preference, I do believe that any increase in taxes ought to be accompanied by a reduction in the growth of spending, and that the changes ought to be progressive which would lead me to potentially agree to a change in the bubble.

The other observation I would make is I do think it is appropriate to have an increase in the gasoline and aviation taxes. In our communities and in the Chicago metropolitan area, we have problems, including the Chicago Skyway, and a consideration of the development of the third major airport. If we do not have additional new Federal tax revenues in those highway and aviation trust funds, those types of problems in the Chicago metropolitan area, let alone nationwide, are not going to be resolved.

In the end, those taxes, I believe, should only be raised, however, if in fact they are going to be spent on infrastructure development. I think it is time to take that step. I think when you have people doing research at institutions, such as the Chicago Federal Reserve, indicating that increased infrastructure investment would lead to increased private investment in a more productive economy, those would be sound tax increases that would lead to a stronger national economy.

[The statement of Mr. Visclosky follows:]

PETER J. VISCLOSKY
1ST DISTRICT, INDIANA

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PUBLIC WORKS AND TRANSPORTATION
EDUCATION AND LABOR
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TESTIMONY OF
CONGRESSMAN PETER J. VISCLOSKY
BEFORE THE HOUSE WAYS AND MEANS COMMITTEE
MARCH 7, 1990

Mr. Chairman, I would first like to thank you and the members of the Committee for affording me the opportunity to to testify today. I wish to briefly discuss a serious problem with Section 118 of the Internal Revenue Code as it relates to environmental safety.

With the enactment of the Tax Reform Act of 1986 (P.L. 99-514) Congress reversed the long-held rule that capital contributions in aid of construction (CIAC's) to electric, gas, water, or sewerage utilities were not considered as taxable income. The 1986 rule provides that CIAC's are not "contributions to capital" and thus are not excludable from gross income for taxation purposes.

As you know, Congress interpreted the receipt of a CIAC by a utility as prepayment for future services provided to their customers. Congress viewed the exclusion of these amounts from income as inappropriate and, accordingly, required that they be reported as gross income under Section 118 of the Internal Revenue Code.

Soon after passage, however, unanticipated negative effects were manifested. Communities experiencing groundwater contamination problems found utilities uncooperative and unwilling to accept the resulting tax responsibility. Unfortunately, many communities lack the resources to pay the tax. The result is often long and potentially dangerous delays in supplying clean water.

Last Thursday, I introduced the "Right to Safe Drinking Water Act of 1990" (H.R. 4172) to address this alarming effect of our Tax Code. My legislation will allow a utility to exclude from its gross income, for Federal income tax purposes, a contribution in aid of construction received for water main extensions in cases where public health is threatened by groundwater contamination. The exemption will apply only to cases where the donation of dollars or property is received from a governmental entity and it will pertain only to circumstances where existing wells have become contaminated.

My legislation responds to a growing national problem. I would, however, like to focus on a situation in the district I represent that painfully illustrates the effects Section 118 can have on a community and its residents.

The Lake Sandy Jo Superfund site is located in the center of a small neighborhood of Gary, Indiana. The solid wastes that accumulated in this one-time landfill have now seeped into the surrounding environs -- contaminating nearby groundwater and threatening the health of area residents. The Environmental Protection Agency (EPA) determined that it was necessary to bring in a safe water supply by extending water mains to this neighborhood. Plans for construction were initiated in 1986, but the project was put on hold because of the tax liability (over $522,000) due to the new Section 118.

The various Federal and State agencies haggled for three years about who was going to pay this tax -- the local utility refused to take the new water mains until it was certain that the Section 118 tax would be covered. EPA indicated that it could not use Superfund monies for the sole purpose of paying the tax. The State of Indiana was also unwilling to absorb the cost.

Three years later, and only after protracted negotiations and pressure, a resolution was reached. It is ironic that, in the end, 90 percent of this Federal tax will be paid by the EPA, an agency of the Federal Government.

During this three-year period, Lake Sandy Jo's residents have been forced to drink bottled water and many take showers at a local gym. In June 1988, a widow, who lives next door to the Superfund site, was quoted in a local newspaper:

> "I just feel it's taking too long to do this. I don't drink the water. I'm paying $14 a week for six gallons of bottled water. I wash in my well water, sometimes. I used to use it to water my flowers, but my African violets didn't bloom. So I started using the bottled water for that and they started to bloom again."

Lake Sandy Jo is only one example of many such situations. I recently learned of a case in Lowell, Indiana, where the utility refuses to proceed with a project to bring safe water to an area with dangerously high fluoride levels until they are certain that the Section 118 tax will be covered. I am also aware of several cases in New Jersey, and given these circumstances, I would deem this to be a truly national problem.

I am not here today to argue the pro's and con's of Section 118. My concern is the chilling effect that it can have on specific situations, like Lake Sandy Jo, where environmental contamination has become an urgent threat to public health. All Americans deserve and expect a clean, healthy water supply. If the tax code inhibits this, it should be corrected. I urge the members of the Ways and Means Committee to give serious consideration to my legislation when examining Section 118 modifications.

Chairman ROSTENKOWSKI. Thank you, Mr. Visclosky.
Mr. Pallone.

STATEMENT OF HON. FRANK PALLONE, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. PALLONE. Thank you, Mr. Chairman.

I wanted to discuss today briefly, and I will summarize, a proposal to have a federally imposed product charge for environmentally unsound packaging. And I'm from New Jersey and, of course, New Jersey and the Nation are rapidly being confronted with a solid waste crisis which has already been mentioned this morning.

In my State, more than 250 landfills have been closed in the past 15 years, and in the next few years even more landfills are going to be closed. And New Jersey now ships 55 percent of its municipal solid waste out of State.

Nationally, the picture is just as bleak. The EPA estimates that one-third of the Nation's municipalities have or will run out of landfill space within the next 10 years. Clearly, something has to be done. And I believe we must first and foremost educate consumers about the environmental choices available to them. We must also create a system which provides incentives to corporate leaders to package and market their products in a way that minimizes the amount of postconsumer solid waste that makes its way into our Nation's landfills.

The paper, plastic, metal and glass that is used in the packaging of consumer products is reflected in the price of the product. And the cost of disposing of that waste generated by consumer product packaging is not. If we are to deal effectively with this negative externality, we must internalize the cost of disposing of postconsumer solid waste.

The extent to which postconsumer solid waste contributes to the solid waste crisis in America is astounding. When food and yard waste is excluded, one-half the volume and 30 percent of the weight of garbage is packaging. And if we as a nation are to make any progress in reducing the amount of solid waste generated, packaging must be targeted.

And, Mr. Chairman, just a couple of weeks ago, myself and three environmental groups got together in what we call a waste-watch program. And periodically every 3 months, we announce weightmaker awards for those products that are environmentally unsound in terms of the packaging.

There are a number of products that received the award 2 weeks ago. But I just wanted to give you an example of a couple of them today so you understand what I am talking about.

What we did is we chose products that, in the past, have used environmentally sound packaging and, in the last few months or the last year, have switched to what we consider environmentally unsound packaging.

And just to give you two examples. One that we used was Aunt Jemima Pancake Mix which, for years, was packaging its product in a plain recyclable cardboard box, that makes 39 pancakes. All of a sudden, a few months ago, within the last year, Aunt Jemima started to market an Aunt Jemima plastic container like this [indi-

cating] which makes six pancakes. You add water and shake and simply pour it out.

But, as you can see, rather than having the recyclable package, cardboard package, you would need six of these plastic individual, six-serving packages, to make up for the same one box that is recyclable for 39 pancakes. And I should add that, in this case, the cost is five times as much if you purchase the plastic as opposed to the cardboard.

Just another example that we used was with regard to these TV dinners, or whatever you want to call them. We used an example where they both were a pot roast dinner, but Le Menu puts out a pot roast dinner that uses an outer package like this [indicating], and then inside has three other either plastic or cellophane pieces before you actually get to the dinner. This is an example.

On the other hand, we compared that to Budget Gourmet, which just has the one package that you put in the microwave or the oven, and then you eat out of the same package. Again, it is a bit of a gimmick. But the idea basically——

Chairman ROSTENKOWSKI. What is the name of the last one? [Laughter.]

Mr. PALLONE. Budget Gourmet.

The point we're trying to make though, Mr. Chairman, is that there are ways of marketing and producing the same thing that are much better from an environmental point of view.

And what I am really leading up to here is to try to create some sort of economic incentive. This is an educational process. We basically educate the consumer about the better and more environmentally sound packaging and urge them to buy the environmentally sound one rather than the one that isn't.

But what I think we really need in the long term is some sort of economic incentive to induce manufacturers to internalize the cost of disposing of product design in packaging.

And 12 years ago, the EPA endorsed the concept of imposing a product charge on the virgin materials used in consumer product packaging.

Basically, the idea is to have a waste charge on products that would ensure the producers and consumers whose decisions jointly determined the levels of the solid waste management burden will directly bear the costs resulting from their choices and thus provide a direct economic incentive to stimulate desirable waste reduction and recycling efforts.

Again it is a way of trying to encourage through economic incentives with this product charge that the environmentally sound packaging is used, and that we don't create the continual and growing problem with regard to solid waste materials.

You asked me, Mr. Chairman, about other types of taxes. Without saying what I would support, I would say that I have, on the average, at least two town meetings a week. And regularly at the town meetings people bring up taxes and ways of coming up with Federal revenue to reduce the deficit, or come up with new programs.

And without saying what I would necessarily support, I would say that the two most common cries I hear, if you will, with regard to taxation, is, one, eliminating the cap on the payroll tax which,

as you know, has been proposed in the past for home health care and other types of long-term care. And the other one, I guess would basically go along with what Congressman Gephardt had proposed last year, which was changing the tax rate on—the income tax rate on those I guess who were making over $150,000 a year because it is disproportional to those under that.

I don't know specifically if I have the figures right, but those are the two things that I hear most often at town meetings. I guess people in general feel that may be an easy way.

[The statement of Mr. Pallone follows:]

STATEMENT OF REPRESENTATIVE FRANK PALLONE, JR.
BEFORE THE HOUSE WAYS AND MEANS COMMITTEE
MARCH 7, 1990

The Internalization of Costs of Post-Consumer Solid Waste

Mr. Chairman, New Jersey and the Nation are rapidly being confronted with a solid waste crisis. In my state -- New Jersey -- more than 250 landfills have been closed in the past 15 years and in the next few years even more landfills will be closed. Closed due to the fact that they have reached their maximum capacity. New Jersey now ships 55% of its municipal solid waste out of state. Yet just a few years ago, New Jersey was an importer of municipal solid waste for disposal in our landfills.

Nationally, the picture is just as bleak. EPA estimates that one third of the nation's municipalities will run out of landfill space within the next 10 years.

Clearly, something must be done. I believe we must, first and foremost, educate consumers about the environmental choices available to them. We must also create a system which provides incentives to corporate leaders to package and market their products in a way that minimizes the amount of post-consumer solid waste that makes its way into our nation's landfills.

The paper, plastic, metal, and glass that is used in the packaging of consumer products is reflected in the price of the product. The cost of disposing of the waste generated by consumer product packaging is not. If we are to deal effectively with this negative externality, we must internalize the cost of disposing of post-consumer solid waste.

The extent to which post-consumer solid waste contributes to the solid waste crisis in America is astounding. When food and yard waste is excluded, one half the volume and 30% of the weight of garbage is packaging. If we as a nation are to make any progress in reducing the amount of solid waste generated, packaging must be targeted.

Currently, there are no economic incentives to induce manufacturers to internalize the cost of disposing of product design and packaging; because manufacturers do not pay for waste disposal. This market imperfection results in inefficient waste disposal due to a lack of appropriate market signals.

If the materials used in packaging were charged a rate equal to the cost of collecting and recycling particular packaging materials, this negative externality would be minimized. A materials product charge on virgin materials would provide an incentive to reduce the amount of waste generated as well as encouraging recycling. By using more environmentally sound packaging, manufacturers will reduce the total amount of waste generated. More important, manufacturers would have an incentive to use recycled materials to avoid paying any product charges. A system in which manufacturers are given an incentive to generate less post-consumer solid waste is a positive step in establishing a more environmentally and economically efficient marketplace.

Packaging is for "safety, convenience and integrity [of the product] to consumers" according to Edward Stana, executive director of the Council on Plastics and Packaging in the Environment. This is not the statement of an environmental group --- but an industry association. Excessive packaging does not serve the basic purpose of packaging, and simply adds to the cost of the product without enhancing its value.

The Environmental Protection Agency endorsed the concept of imposing a product charge on the virgin materials used in consumer product packaging in a study over 12 years ago in which it concluded "...the product charge concept has a number of desirable incentive features from an economic efficiency standpoint. A waste charge on products would ensure that producers and consumers whose decisions jointly determine the levels of the solid waste management burden will directly bear the costs resulting from their choices, thus providing a direct economic incentive to stimulate desirable waste reduction and recycling efforts." [Resource Recovery and Waste Reduction (SW-600), August 1977, p.xviii]

Adequately reflecting the cost of waste disposal will result in more efficient and cost-effective behavior on the part of both consumers and manufacturers. A policy that accurately reflects the negative externalities that impact on our environment is not merely good environmental policy; it is good economic policy as well.

Mr. Chairman, the Port Authority of New York and New Jersey will be heard by this Committee on a proposal to extend tax credits to users of public transit. I strongly support this proposal. We have worked hard in Congress to improve air quality, and to address congestion and infrastructure related problems. The Port has cooperated with federal and state agencies in addressing these problems. Yet, all our efforts are undermined by the current federal tax policy which encourages dirty air and congestion by offering tax free parking for commuters without adequately encouraging public transit.

I just want to mention, before the Port Authority presents its very comprehensive testimony that the Port has worked with public transit agencies in New York and New Jersey to develop the TransitCheks program offering vouchers for the purchase of tokens, tickets and passes. The program has shown much promise and has increased public transit ridership. However, as I will allow the Port Authority to demonstrate in its testimony, a larger tax credit will greatly greatly enhance the program.

I join with the Port Authority in encouraging the Committee to increase the public transit cap to encourage greater use of public transit; maintain the administrative ease and flexibility of the current transit fringe benefit; expand the permissible use of this benefit by including vans and carpools both of which are popular means of reducing congestion in my Congressional District and lastly, eliminate the quirk in the transit benefit regualtions that treats the entire employer provider transit benefit as taxable if the monthly cap of $15 dollars ($180 yearly) is exceeded.

Chairman ROSTENKOWSKI. Well, Mr. Pallone, I am sure that the incomes of the audience that you are participating with in these town meetings are all below $180,000.

Mr. PALLONE. That is certainly true.

Chairman ROSTENKOWSKI. So they are not willing to participate in any, you know, in any accounting provision that is going to help us raise revenues. They want the other guy.

Mr. PALLONE. That's true.

Chairman ROSTENKOWSKI. Well, I want to thank you gentlemen.

Are there any questions of the panel?

Mr. McGrath.

Mr. MCGRATH. Jim, regarding your proposal to increase the limit of the income exclusion for employer-provided mass transit benefits, we had a hearing on that a couple of weeks ago. What do you recommend that the limit be raised to?

We understand that if you double the limit, it would cost somewhere in the neighborhood of $60 to $100 million.

I'm just wondering what you think is a legitimate increase.

Mr. MCDERMOTT. I think there are two aspects to it. One is it has to be computed by the business. I think that's one part.

If you could make it easier so that businesses would be more likely to do it, I think that would be important. But I think the other thing is the closer you come to the cost of a monthly bus pass in a city, the more impact you're going to have in terms of making it an incentive to get people on to buses.

Mr. MCGRATH. Let me give you an example relevant to both Tom and me.

I live closer to the city than Tom does, so it must be much more expensive for him, but to get on the Long Island Railroad to commute to New York City, it costs about $125 a month, plus another $1.15 each way on the subway. For 20 days, workdays, it becomes very expensive. If we increased the limit from $15 to somewhere in the neighborhood of $200 a month, it would be I think prohibitively expensive.

I think increasing the limit is a good idea. I'm just trying to come up with what might be a reasonable adjustment in the limit as it exists today.

Mr. MCDERMOTT. I think in the legislative process, we'll come to a figure that won't fit some and will fit others. I think the higher it is, the better it is. But I realize the limitations.

Seattle is much simpler than New York, or Metropolitan New York City is. So I think there is no way we will find something that fits everyone. But certainly $15 versus the present $8 a day times 20 days a month, the $160 to $15 is disproportionate in terms of driving your car.

So, if you could simply reverse it, or if you could make it equivalent, you would have made a step forward. So that people could then say for the same money, I can do the socially or the environmentally positive thing.

Mr. DOWNEY. Ray, would you yield?

I like the idea too, Jim. Would you make it in any way income dependent with a credit phaseout if you earned, let's say, $50,000 or $100,000, it would apply across the board?

Mr. MCDERMOTT. I like progressivity in the tax structure, and that would add progressivity. And I would think that that would be a good idea.

I am more worried about getting the worker who is cleaning the office the benefit and getting them on the bus than having them try to continue the cost inefficient way we're going now.

Mr. DOWNEY. Well, because there's a tension here between if you can offer someone the credit who has a higher income, and there is some level of inducement to get them out of the car and into the train or into the bus, then that's a value as well. I mean I am not sure myself, and that's the reason I asked.

Thank you.

Chairman ROSTENKOWSKI. Mr. Gibbons.

Mr. GIBBONS. Mr. Pallone, your demonstration was very interesting. Let me ask you a question.

Do you do the cooking in the family? [Laughter.]

Mr. PALLONE. Do I? No, I do not.

Mr. GIBBONS. I thought so.

Chairman ROSTENKOWSKI. How about the last one? Did you ever try that one, the one you eat out of?

Mr. PALLONE. Oh, yes, sure.

Chairman ROSTENKOWSKI. How is that one? Is it any good?

Mr. PALLONE. Oh, yes, fine.

Chairman ROSTENKOWSKI. I'm a bachelor here, Mr. Pallone. Why don't you and I get together?

Mr. PALLONE. OK. Me too.

Chairman ROSTENKOWSKI. I'll do the dishes. [Laughter.]

Mr. GIBBONS. I was going to point out that in that Aunt Jemima one, that little package interests me. I think I'll buy it next because, you know, if I open that big package, I've to throw away half of the contents of the package unless I eat pancakes at every meal.

Mr. PALLONE. You could save it. You could save it and——

Mr. GIBBONS. Did you ever try to save that stuff? [Laughter.]

Chairman ROSTENKOWSKI. Sam, put it in the refrigerator. It isn't bad, especially when you're short at the end of the year.

Mr. GIBBONS. I do the cooking most of the time, and I do most of the grocery shopping in my family. And I'm appalled like you about the types of containers that I find, and I think there's a great waste there.

But, you know, the marketplace varies. If you've a large family, you want that box. It's cheap. You can use it all up. But if you buy that box, you're going to have to buy another refrigerator to put all the boxes in. And they won't keep very long in the refrigerator either. They will not rise, they will not do a lot of things that make them tasty.

So it's a pretty good thing, that plastic thing of Aunt Jemima. I'm glad you brought it to my attention. [Laughter.]

What I'm trying to point out is that, you know, each of our needs changes, and the people that market those things aren't stupid.

Mr. PALLONE. But what we are suggesting though is that there be a product charge. In other words, the problem here is that you do have an excessive amount of waste——

Mr. GIBBONS. You don't think the people who run the businesses understand that?

Mr. PALLONE. That may be. But what I'm suggesting is that because of the problem with landfills, if we were able to impose this product charge, that money could be used, sent back to municipalities, for examples, in grants that they could use then to find ways to dispose of this material.

But part of the problem here is that if the cost of that disposal is not internalized, and that that cost then goes to the towns and other Government agencies——

Mr. GIBBONS. Well, what kind of tax would we levy that would encourage people to buy things in boxes instead of in more convenient——

Mr. PALLONE. Well, basically, you would be adding a cost to the disposable——

Mr. GIBBONS. What kind of tax though, you know, what kind of incentive? Let's get specific. You know, we have to deal with specifics up here.

Mr. PALLONE. No. I was thinking it could be a federally imposed tax that is then collected by the Federal Government and then passed back to the States or municipalities in the form of grants for solid waste purposes. I mean that's one possibility.

Mr. GIBBONS. Did you advocate that at your town meetings?

Mr. PALLONE. Oh, sure. In fact, I would bring this up quite a bit at the town meetings.

Mr. GIBBONS. It's an interesting and humorous demonstration. But when you start administering a tax like that and redistributing it, you are going to get in—we'll hire more bureaucrats than all of that cost to do it and collect it.

Would it be through the income tax that we would do it?

Mr. PALLONE. No. It would be something that would simply be imposed. I guess it would have to be collected by the manufacturers themselves, and then, you know, given to the Government.

Mr. GIBBONS. An excise tax you're talking about.

Mr. PALLONE. Of sorts.

Mr. GIBBONS. Well, if you present a bill and, you know, that would be interesting to see.

Mr. PALLONE. All right. That's what I——

Mr. GIBBONS. But I want you to go through the exercise of trying to figure out how we would collect that tax and how we would do it. Because while I'm impressed with your illustration, I have also had the experience of trying to administer some of these taxes. And they are extremely complex when you get down to the real facts and circumstances of how you collect the money and who you collect it from, and how much it will be. And then how are you going to redistribute it in a practical manner.

Thank you for the information.

Mr. PALLONE. Thank you. And I am in fact drafting something, and I'll get back to you on it.

Mr. GIBBONS. I appreciate it. Okay. Fine.

Chairman ROSTENKOWSKI. Any further questions?

Mr. Pease and then Mr. Cardin.

Mr. PEASE. Thank you, Mr. Chairman.

I would like to thank our three panelists. I found Mr. Pallone's testimony both interesting and persuasive. And since my State of Ohio is a recipient State for part of New Jersey solid waste, I

would have a particular interest in cutting down on solid waste in your State.

I also found Mr. Visclosky's testimony helpful. I always pay attention to what Mr. Visclosky says, even more so since I read Roll Call on Monday of this week. So I am going to hang on every word that you say, Pete.

Chairman ROSTENKOWSKI. Mr. Pease, Mr. Gibbons just asked me. Are you a candidate for something in leadership? [Laughter.]

Mr. PEASE. Mr. Chairman, I had been hoping to keep that a secret for awhile. [Laughter.]

Mr. McDermott, as a fan and regular rider of mass transportation, I certainly agree with the points that you make. There's a question of equity in the tax treatment, as you point out, of automobile transportation versus mass transit. And whenever you try to cure that equity, the question always comes up, well, since that will lose revenue, how are you going to pay for it?

I would suggest you might want to look into the possibility of evening out the treatment of mass transit and automobiles, if necessary, by restricting the benefit for automobiles so that you wind up with a revenue neutral proposal. It would seem to me that that would have a lot better chance of getting adopted in this Gramm-Rudman era.

And if you do that, I would be interested in seeing the end result.

Thank you.

Chairman ROSTENKOWSKI. Mr. Cardin.

Mr. CARDIN. Thank you, Mr. Chairman.

I also want to thank my colleagues for their testimony. I want to follow up on Ray and Tom's point with Jim, if I might, for a moment.

I think the point that you've made is absolutely on target because it makes no sense from an environmental or a fairness point of view for us to provide unlimited tax advantages for free parking while providing very limited benefits to people using mass transit. Using mass transit rather than private automobiles is far more desirable for many reasons, not only the clean air aspects that you bring out in your testimony but for many other reasons.

I think Tom's point is very well taken. We need to take a look at how a specific proposal operates. It is interesting that the administration testified yesterday. They said that they believe employer-provided community benefits deserve further study. Even the administration, has not written this proposal off.

I guess my question to you is how will we fund it? There will be certain funding costs. Have you looked at trying to restrict unlimited parking benefits making part of that taxable? Should there be some way of funding the additional mass transit benefits and making this revenue-free?

Mr. MCDERMOTT. I think Mr. Pease makes a suggestion that probably makes the most sense given today's economic environment. You probably would do better to take away from the side of those who have an unlimited benefit and gradually even out by that method, increasing the transit benefit.

I think that is probably the most you could do at this point. I don't think you're going to be able to leave the benefit for automo-

biles and give unlimited benefits on the other side as Mr. Downey suggested.

I think some kind of evening out at least is doable at this point.

Mr. CARDIN. Are you working on a specific proposal?

Mr. MCDERMOTT. We have some people in Seattle who have been talking about some specifics. And I will get to you with them.

Mr. CARDIN. Thank you.

Thank you, Mr. Chairman.

Chairman ROSTENKOWSKI. Mr. Moody.

Mr. MOODY. I would like to talk about transportation also. I agree with what Tom and Ben have been saying.

Have you thought about some change in the gas tax to help raise revenue? To earmark part of it for infrastructure which we so badly need, more for mass transit, and an incentive to preserve the incentives for fuel efficiency. The real cost of gasoline now is at its lowest since 1976 net of inflation. Gasoline prices except for a couple of spikes during the oil crisis, have been steadily dropping, dropping, dropping, which means an increasing incentive to use your car and not use mass transit.

We are often told that you couldn't pass a gas excise tax because of the Western States. Do you have any thoughts about an increase in gas taxes, both as a funding device, as an incentive device, as a fuel conservation device, and as a pollution reduction device? To it encourage use of mass transit.

Mr. MCDERMOTT. No. People have the delusion that Western States are all rural. Now, as the cities become larger and larger, Seattle has an air problem. We have a clean air problem in Seattle. The best, most livable city in the United States has days when we have smog.

Southern California has passed the toughest laws in the whole country. I think there is a lot more support. Denver has big problems. Any place you have a big city in the West where we are just sprawled out, we have gotten ourselves into difficulty. And I think that there is more and more concern in the West than most people recognize for a way to pay for the cleanup event.

I realize the zero sum nature of all this. You have got the highway trust fund sitting there now with money in it. Some of that could be used as a way of balancing off this kind of transit subsidy or incentive, if you will. There are a lot of ways to do it. I think it really is a decision as to whether we are going to recognize the inequity and make a move. I don't know quite how to do it.

Mr. MOODY. Right. The highway trust fund issue, of course, raises a question, how we finance it. We could finance a lot of this right out of the surplus funds that the administration doesn't want to spend because the deficit would look bigger.

But, on the issue of disincentives, it seems to me since gas prices are actually falling continuously, and since fuel efficiency standards have been readjusted backwards continuously, we really need some incentive to conserve fuel. We are importing a higher percentage of our fuel today than we were on the eve of the OPEC crisis.

We are setting ourselves up for another price spike later on. We have these other benefits of encouraging mass transit relative to the automobiles.

You don't find the idea of a gas tax politically fatal?

Mr. McDERMOTT. Particularly when it's tied to cleaning up the environment. I think you will find in California, it will be much more appealing than it ever has been in the past. It would be in Seattle, it would be in Denver. I think you are going to find people—nobody wants to pay more tax. The chairman has got us in a box. Obviously everybody wants to tax somebody else.

But the fact is that everybody realizes we all breathe the same air. The air is bad in Seattle now, and that's true all over the West. And I think that the people who are there now recognize that they are going to have to pay something to keep it clean.

Mr. MOODY. So there might be a political benefit in using some of the money for cleanup.

Mr. McDERMOTT. Yes.

Mr. MOODY. OK. Thank you.

Chairman ROSTENKOWSKI. If there are no further questions, I want to thank our colleagues for joining us this morning.

Mr. Pallone, you buy the larger package, and I'll invite you and Sam Gibbons over for breakfast and we'll eat the whole damn box. [Laughter.]

Mr. PALLONE. All right.

Chairman ROSTENKOWSKI. Mr. Montgomery. Ms. Marcuss.

Thank you for joining us this morning. If you are ready to proceed, the committee is ready to receive your testimony.

Mr. Montgomery.

STATEMENT OF W. DAVID MONTGOMERY, ASSISTANT DIRECTOR, NATURAL RESOURCES AND COMMERCE DIVISION, CONGRESSIONAL BUDGET OFFICE, ACCOMPANIED BY ROSEMARY D. MARCUSS, ASSISTANT DIRECTOR, TAX ANALYSIS DIVISION, CONGRESSIONAL BUDGET OFFICE

Mr. MONTGOMERY. Thank you, Mr. Chairman.

I am David Montgomery, and I am Assistant Director for Natural Resources and Commerce at the Congressional Budget Office [CBO]. I am appearing with Rosemary Marcuss, who is Assistant Director for Tax Analysis at CBO.

We are pleased to appear before the committee this morning to discuss several environmental taxes that were cited in the CBO deficit reduction report, which was released last month. The taxes cited include excise taxes on air and water pollution, excise taxes on carbon based fuels, and a tax on agricultural chemicals.

We will submit the sections of the report covering these topics for the record. These sections contain both a description of each tax and estimates of revenues that would be raised over the 1991–95 period.

I will try to highlight some of the key points made in our prepared statement, which we have submitted.

Economists and others have long supported use of taxes or other price incentives in environmental protection programs. The basic recommendation for these price incentives is that they allow the individual or firm responsible for pollution to seek the cheapest way to reduce emissions. I am sure that by now all of this is familiar to you.

Faced with a tax on emissions or discharges, a polluter will compare the cost of reducing those emissions with the tax saving that would result. All pollution control measures with lower cost will look good and will be undertaken while more expensive options will be avoided.

Compare two different polluters with different opportunities to control emissions. A pollution tax will encourage the polluter with relatively inexpensive options to do more in contolling emissions or the polluter with more difficult problems may reduce discharges by a lesser amount and pay a greater tax.

The result is that whatever reduction in pollution is achieved through taxes will be accomplished at least cost to the economy. Higher taxes will induce more effort and result in lower levels of emissions. But predicting what level of emissions will result is uncertain.

Moreover, since one purpose of the pollution charge is to affect behavior, such charges work best when they are levied on the basis of actual emissions.

It must also be possible for the polluter to reduce his tax liability by reducing emissions. Costs of monitoring emissions and administering a tax system with these ideal properties may be high for some pollutants and some types of polluters. Small sources and what are known as nonpoint sources are notoriously difficult to monitor.

Perhaps, in part, because of their uncertain environmental effects and potential administrative costs, pollution charges has not been the route taken in environmental policy. Direct regulation of polluters, often to quite stringent levels, is the principal method the United States uses to control pollution.

Direct regulatory controls requiring certain types of pollution control equipment to be installed when granting permits limited emissions at certain facilities.

Congress is not likely, I suspect, to forsake regulation in favor of economic incentives wholesale.

Decades of environmental legislation hammered out in lengthy and difficult sessions demonstrate this commitment to a regulatory approach. Thus, we view pollution charges as supplements to the current system of direct regulation, and consider how they might harmonize with that system.

This could be done by using taxes to provide incentives that go beyond current standards. For example, taxes could be used to strengthen the Clean Air Act regulations or to fill in gaps in current regulations where potentially cost-effective routes to pollution control may be neglected.

Administrative costs could also be minimized by using information already generated by current procedures. The excise taxes in the CBO deficit reduction volume illustrate many of these points about integrating pollution taxes with the current regulatory system.

I want to take this discussion on taxes to one on sulfur oxides and air pollutants to provide some examples.

The first is about strengthening the Clean Air Act, which could be done through incentives. Current regulatory requirements under the Clean Air Act could form a backstop or insurance so

that environmental gains already achieved would not be lost under new incentives.

Pollution taxes set above the marginal cost of controls required under the current Clean Air Act would give an incentive to reduce emissions further.

Another approach is that gaps in the current regulatory system, in particular for sulfur oxides, could be filled with a tax like that described in the CBO deficit reduction volume.

Although some high-cost equipment measures, like scrubbers, are required on new pollution sources under the Clean Air Act, other pollution control options with potentially lower marginal costs for removing sulfur are also available.

In particular, the Clean Air Act gives little encouragement for electric utilities to switch from high-sulfur to low-sulfur coal. A tax set at a level much less than the current marginal cost of removing sulfur through scrubbing would be sufficient as an incentive for switching to a less polluting fuel. The result would be cost-effective reductions in pollution within the current Clean Air Act framework.

All major sources of sulfur and nitrogen oxides must have State or Federal permits that set maximum allowable emissions. Levying a tax on the permit levels of emissions would minimize administrative costs for monitoring emissions and still be an effective incentive to reduce emissions since a polluter with reduced emissions could have its permit levels revised downward and thus avoid taxes.

The current system of direct regulation has been effective in reducing air and water pollution and other environmental insults. Current regulations are also sufficiently stringent in many cases that moderate pollution taxes would only affect behavior where there are gaps in the system.

When pollution taxes are set below the marginal cost of control that is applied by current regulations, a tax would be collected without achieving further pollution abatement—at least in the short term.

Over the long term, however, such taxes would lower the profitability of activities that pollute. Doing so would make investing in these activities less attractive and, eventually, would raise the prices and lower the production of goods that pollute. Hence, even if taxes appear to be set too low to reduce pollution in the short term, they may do so in the long term.

Let me now turn to some points about pollution taxes as revenues sources. Recently, economists and legislators have found the revenue-raising potential of environmental taxes to be of particular interest. Using pollution taxes as a source of Federal revenue may benefit the economy, while other current taxes, such as taxes on income, may adversely affect incentives to work or save.

Thus, from the perspective of allocating resources, it might be preferable to raise revenue from pollution taxes rather than from current taxes. But the distribution effects of using pollution taxes as a revenue source must also be considered. We have already heard discussions about progressivity today.

Some people would justify pollution taxes on the basis that polluters who are degrading the environment should pay, even if they were polluting within currently permitted bounds.

The view that polluters should pay may not square with common conceptions of tax equity, which refer to notions of an equal burden or an equal ability to pay, because pollution taxes would hit some industries in regions of the country harder than in others. Such taxes would thus impose different tax burdens on businesses and households that otherwise have equal ability to pay.

Pollution taxes would also increase the prices of some consumption items, such as electricity, since electricity and other forms of energy are a larger share of the budget of poor households than more wealthy households. Results of these taxes could also be regressive.

Viewing pollution taxes as economic incentives for reducing pollutions or as revenue sources are not necessarily inconsistent concepts; however, there are different implications for the specific level of the tax.

Relatively low charges per unit of pollution may provide little economic incentive to reduce pollution, but they provide a reliable revenue source.

In contrast, a tax that significantly exceeds the current incremental cost of controlling emissions, as required for example by the Clean Air Act, could generate substantial reductions in pollution. Although furthering environmental goals, such a tax would at the same time, reduce the basis for the tax.

The choice of a specific tax or fee level, therefore, depends, at least in part, on the primary motivation of the charge—pollution reduction revenue sources.

Some of the increased efficiency that taxes can provide can be realized through other means. For example, a system of marketable allowances for pollution provides economic incentives very similar to those provided by taxes to reduce pollution in an efficient way. Such a proposal is currently being considered in the Clean Air Act legislation, which would allow electric utilities to trade their permits for sulfur emissions.

Firms that can reduce pollution more cheaply than other firms would tend to do so and trade a portion of their pollution allowances to those who could only achieve reductions of emissions at relatively high costs.

Thus, in a way, marketable permits combine the certainty of pollution reduction, which characterizes the current regulatory system, with the promise of taxes to achieve pollution reduction at least cost.

The potential drawback may be that, unlike taxes, marketable permits do not raise revenue for the Government, which is probably not an insurmountable difficulty. If increasing revenues were considered important as an adjunct to environmental policy, allowances to pollute could be sold rather than given away, much like leasing on the Outer Continental Shelf or other proposals that were in the CBO deficit reduction volume, such as auction of portions of the electromagnetic spectrum and landing rights at high-capacity airports.

The excise taxes described in the CBO deficit reduction volume illustrate many of these general points about the design of pollution taxes, but I will not try to describe them now.

We will be delighted to answer any questions you may have about these taxes or other issues.

Thank you for the opportunity to address the committee.

[The statement of Mr. Montgomery follows:]

TESTIMONY OF W. DAVID MONTGOMERY, ASSISTANT DIRECTOR
NATURAL RESOURCES AND COMMERCE DIVISION
CONGRESSIONAL BUDGET OFFICE

Mr. Chairman, we are pleased to appear before the Committee this morning to discuss several environmental taxes that were cited in the Congressional Budget Office (CBO) report *Reducing the Deficit: Spending and Revenue Options*, which was released last month. These include excise taxes on air and water pollutants, excise taxes on carbon-based fuels, and a tax on agricultural chemicals. We will submit for the record the sections of the report covering these topics. These sections contain both a description of each tax and estimates of revenues that could be raised over the 1991-1995 period.

We would now like to address some of the key issues that arise in thinking about the use of these environmental taxes. These issues include:

- How do taxes compare with current regulations in reducing pollution? The primary points of comparison are the certainty and the economic costs of achieving any given level of improvement in the environment;

- How can taxes supplement current environmental regulations? Taxes can still play a role in improving the environment if they are used to supplement or augment existing regulations, rather than used in place of them;

- How do pollution taxes compare with other taxes as a source of federal revenue? This question must be asked from the perspective of overall economic efficiency, and from the perspective of the distributional equity of the federal tax burden; and

- Finally, what are the problems with pollution taxes? While they are generally appealing as an alternative to regulations, there are cases where regulations may be preferred because of technical problems of measuring emissions or of high administrative costs.

USING TAXES TO REDUCE ENVIRONMENTAL DAMAGES

Taxes on emissions of pollutants or on activities that generate pollution could become important instruments for achieving environmental protection, as well as being new sources of federal revenue. Direct regulation of polluters is now the principal method for controlling pollution in the United States. Direct regulatory controls include requiring that certain equipment to reduce pollution be installed and granting permits that limit emissions at certain facilities.

Economists and others have long supported the greater use of taxes or other price incentives in environmental protection programs. Pollution taxes could create incentives for firms or individuals to reduce pollution at the least cost or in an economically efficient manner. Ideally, a pollution tax would be set at a level that would balance the social benefits of incremental reductions in pollution--stemming from cleaner air or water, for example--against the incremental social costs of reducing the pollution.

A pollution tax that was set below this level would result in too much pollution in that the social damages of the last increment of pollution would exceed the social costs of eliminating that pollution. Conversely, a tax that was set above this level would cause too much reduction of pollution. In this second case, the benefits placed on the last increment of pollution reduction would be less than the costs that had to be incurred to reduce emissions by that amount.

Current regulatory means of controlling pollution can, like taxes, be more or less stringent than would be desired when all the benefits and costs of pollution and its control were considered. Finding and getting to this optimal level of pollution through either taxes or regulation is difficult, in large part because it is hard to measure the costs and, especially, the benefits of reducing pollution. Taxes and other price incentives do offer some advantages over regulations, however, in achieving levels of pollution abatement that might be specified in current or future environmental legislation.

Properly designed taxes would provide incentives for individuals or firms to seek ways to reduce pollution at the lowest cost. Thus, whatever level of pollution reduction is attained would be achieved at the lowest cost to society. Such incentives may not be present under regulatory controls, which offer less flexibility to producers. A related advantage of taxes over some direct controls is that they create strong incentives for research and development of production processes or pollution control equipment that could make reducing pollution less expensive.

Pollution taxes are an appealing alternative to current controls in some respects, but they are not without their disadvantages. Their primary drawback is that the degree of emissions reduction that would result from any particular tax level may be less certain than the emissions reduction resulting from direct controls. The choice is often between the cost of control, where taxes have an advantage, and the certainty of control, where regulation may be preferred. Over a period of time, however, the process of collecting pollution taxes would generate useful information that would reduce this uncertainty, and taxes could be adjusted so that the desired level of pollution would be attained.

A second difficulty with pollution taxes is that they could carry substantial administrative and compliance costs. Pollution taxes would be new taxes and would add to the costs of administering the tax system. However, in some instances, much of the administrative and compliance costs have already been incurred as part of the regulatory process. Further, there could be technological difficulties in measuring the emissions. The more directly the emissions can be measured and taxed, the more efficiency the tax system would promote.

Pollution taxes could replace the current system of direct regulation. Perhaps more likely, they could be used to supplement current mechanisms to control pollution. If additional pollution abatement were desired over what was currently being achieved by direct regulation, a tax would allow the added improvement of the environment to be accomplished in an efficient way. For example, a tax would induce a polluter who could cut emissions at a relatively low cost to reduce them

below levels that current standards dictate. Producers facing very high costs of reducing pollution beyond required levels, however, would simply pay the tax.

In this last case or, more generally, when pollution taxes are set at relatively low levels, a tax would be collected without achieving further pollution abatement--at least, in the short run. In this instance, pollution taxes should be judged primarily on whether they can raise revenue efficiently and fairly as compared with other taxes. Over the longer term, however, such taxes would lower the profitability of activities that pollute. Doing so would make investing in these activities less attractive and, eventually, would raise the prices and lower the production of goods that pollute. Hence, even if taxes appear to be set too low to reduce pollution in the near term, they may do so over the longer term.

POLLUTION TAXES AS REVENUE SOURCES

Recently, economists and lawmakers have found the revenue-raising potential of environmental taxes to be of particular interest. Using pollution taxes as a source of federal revenue may benefit the economy, while other current taxes--such as taxes on income--may adversely affect incentives to work or save. In contrast, the behavioral effects of imposing taxes on pollution could be positive--at least, if they were set at rates that would bring about improvements in the environment. Thus, from the perspective of allocating resources, it might be preferable to raise revenue from pollution taxes rather than from current taxes.

The distributional consequences of using pollution taxes as a revenue source must also be considered. Some people would justify pollution taxes on the basis that polluters who are degrading the environment should pay--even if they are polluting within currently permitted bounds. Society's environmental resources, in this view, belong to the public at large, and those who use the resources should pay for them.

However, the view that "polluters should pay" may not square with common conceptions of tax equity. Because pollution taxes would hit some industries and regions of the country harder than others, such taxes would impose different tax burdens on businesses and households with otherwise equal abilities to pay. Pollution taxes would also increase the prices of some consumption items--such as electricity--that would cause the tax system to be ultimately more regressive than if revenues were raised from other tax sources.

Although viewing pollution taxes as economic incentives for reducing pollution or as revenue sources are not necessarily inconsistent concepts, they do have different implications for the specific level of the tax. Relatively low charges per unit of pollution may provide little economic incentive to reduce pollution, but they might offer a reliable sources of revenue. For example, in the case of a tax that is set below the cost of reducing emissions, polluters would not cut their emissions; they would simply pay the tax. In contrast, a tax that exceeds the incremental per unit costs of controlling emissions beyond

levels that might already be required by existing regulations could generate substantial reductions in pollution, thus reducing the basis for the tax. The choice of a specific tax or fee level, therefore, depends on the primary motivation for the charge.

Some of the increased economic efficiency that taxes would provide can be realized through other means. For example, a system of marketable allowances for pollution, such as is currently being considered in the clean air legislation, provides economic incentives, similar to those provided by taxes, to reduce pollution in an efficient way. Firms that can cut pollution more cheaply than other firms would tend to do so and sell a portion of their pollution allowance to those that could only achieve reductions of emissions at a relatively high cost.

Unlike taxes, granting marketable pollution allowances to firms based on their historical rates of emissions would not generate revenue for the government. If increasing revenue were considered important, however, the government could sell these allowances to pollute rather than give them away.

EXAMPLES OF POLLUTION TAXES

A pollution tax is defined by its basis (on what the tax is levied) and its size (that is, how big the tax per unit of pollution is). Ideally, the basis of a pollution tax should be the actual emission or the polluting activity that causes the environmental damage. As illustrated below in comments on options for pollution taxes examined by CBO, it is sometimes administratively impractical or too expensive to levy the tax directly on the source of the damage. In some of these cases, however, the information already obtained under current regulatory programs would make it possible to levy the tax on something close to actual emissions.

The size of the tax depends partly on the objective of the tax. A higher tax rate would tend to reduce pollution more than a lower rate. In addition, a higher rate could generate more or less revenue than a lower rate, depending on what it would cost firms to reduce pollution and avoid the tax. Distributional consequences may also affect the preferred size of the tax.

Stationary Sources of Air Pollutants--Sulfur Dioxide and Nitrogen Oxides

One option that CBO examined was to impose excise taxes on air pollutants. Taxes could be applied fairly directly to actual emissions in the case of pollution generated by large stationary sources, including industrial facilities such as coal-fired electric utilities. In that particular option, taxes of $150 per ton of sulfur dioxide and $250 per ton of nitrogen oxides were imposed on electric utilities and large manufacturing plants.

These taxes are assumed to supplement, rather than replace, current regulations on emissions of these pollutants. The tax rates assumed are believed to be of sufficient size to induce additional abate-

ment of pollution. Existing regulatory programs require most facilities to have permits to emit these pollutants. Applying taxes to *actual* levels of emission would be preferred to applying them to *permitted* levels. To minimize administrative costs, however, CBO assumed that taxes would be levied on the permitted levels of dis-charge. Although polluters may not always emit up to their permitted levels, it would be in their interest to make their permit requests conform to actual emissions if such a tax were imposed. Allowing and encouraging changes in permitted levels would cause this tax to have an effect similar to a direct tax on levels of emissions.

These taxes would increase revenues by an estimated $22 billion during the 1991-1995 period. The additional pollution abatement caused by these taxes would result from some polluters switching to cleaner fuels and, perhaps, adopting some less expensive methods to reduce emissions of nitrogen oxide. The taxes are not believed to be sufficiently large to induce widespread use of some available, but more expensive, technologies to control emissions of sulfur dioxide or nitrogen oxide. However, although current regulations do not encourage switching to lower sulfur content fuels, it is a relatively low cost means of improving the environment that even a low tax would promote.

Controlling Mobile Sources of Pollution

Motor vehicles pollute the air when being driven, but measuring actual emissions of any specific vehicle and applying a tax to those emissions would be impractical. Unless technologies for measuring pollution improve, taxing pollution from mobile sources, such as cars and trucks, must be done less directly.

Moreover, important decisions affecting how much pollution a car generates are made during its design. A tax on the estimated emissions of a new car would give manufacturers and consumers an incentive to bias their decisions in favor of vehicles with less built-in potential for pollution.

CBO estimated the added revenues from a tax on new cars and trucks that would average $250 per vehicle. The tax on individual types of vehicles would be positively related to their estimated rates of pollution emissions. This tax would generate nearly $13 billion in additional revenues over the 1991-1995 period. However, this particular tax is imperfect in that many other factors--such as how much the car is driven or how it is maintained--play important roles in how much pollution is generated. Yet, the tax would have no effect on these factors at all.

Older vehicles represent about 90 percent of the vehicles on the road and cause a larger percentage of problems from mobile source emissions. The tax option considered by CBO excludes older vehicles. Ideally, both old and new vehicles would be taxed. Taxing *all* vehicles would penalize all owners for the emissions from their vehicles. Taxing *new* vehicles would reduce emissions because it would create a financial incentive for consumers to purchase vehicles that emit less pollution, much as the gas guzzler tax creates an incentive to purchase more fuel efficient models.

Alternatively, taxing *old* vehicles would probably not reduce emissions from specific older vehicles--that is, unless the tax was set very high--because equipping vehicles with emission controls is quite expensive. However, taxing older vehicles would reduce the incentive to keep these older cars on the road just to avoid paying a pollution tax on a new car. An added consideration is that because lower-income people are more likely to own older vehicles than those with higher incomes, the tax would be regressive.

Carbon Charges to Delay or Avert Global Warming

Worry about serious effects of global warming has raised concern about emissions of carbon dioxide into the atmosphere. Carbon dioxide is one of several atmospheric trace gases that trap the sun's heat near the earth; others are water vapor, methane, and the chlorofluorocarbons. Some scientists are concerned that rising concentrations of these atmospheric trace gases will cause temperatures to rise, which would affect climate, and possibly could have catastrophic consequences, though evidence supporting such dire predictions is far from conclusive.

Carbon dioxide is an important part of the human contribution to rising concentrations of these heat-trapping gases. Reducing carbon dioxide emissions, which essentially means reduced combustion of fossil fuels (coal, oil, and natural gas), could become part of a policy to avert or delay the effects of global warming. The use of carbon charges--essentially different taxes on fossil fuels based on their carbon content--would be a relatively efficient way of reducing their use and, consequently, reducing emissions of carbon dioxide.

In this instance, a tax could be levied on fossil fuels where they enter the economy--at the wellhead or mine-mouth, or point of import. Such a tax would be relatively easy to administer and, most important, would have essentially the same effect on emissions of carbon dioxide as if the tax were levied at the point of emission. The effect is the same because a clearly defined relationship exists between the amount of carbon in a fuel and the amount of carbon dioxide emitted during its combustion.

Unlike other air pollutants, such as sulfur oxides, there is no known technology for removing carbon dioxide from combustion gases. Until such a technology is created, a tax on extracting or importing fossil fuels would be as effective in controlling carbon dioxide emissions as a direct tax on the emissions themselves.

CBO has estimated added revenues from several different taxes on the carbon content of fossil fuels. A tax that might come close to eliminating growth in carbon dioxide emissions over the next decade could generate revenues of $163 billion over the 1991-1995 period. Revenues are relatively large because the tax base is large--fossil fuels are an important part of production in the U.S. economy. Moreover, the tax must be relatively high to cut the use of fossil fuels enough to meet the objective of stabilizing emissions over this period. In this instance, the tax would equal about 40 percent of the delivered price of coal--the fuel with the greatest rate of carbon dioxide emission during

combustion--and about 10 percent of the price of refined petroleum and natural gas.

A Tax on Agricultural Chemicals

A final environmental tax examined by CBO is a tax on sales of agricultural chemicals--pesticides and fertilizers. These agricultural chemicals are believed to create significant environmental hazards, particularly as nonpoint sources of surface and groundwater pollution. Such chemicals, mostly through their improper disposal, can also be a significant point source of water pollution.

Taxing agricultural chemicals would tend to reduce their use by farmers and, consequently, reduce the environmental hazards associated with their application. The use of a tax to induce behavior that benefits the environment in this instance is quite different from the tax on fossil fuels. In the case of fossil fuels, there is a unique relationship between the rate of use of a particular fuel and the rate of emissions of carbon dioxide. Hence, simply discouraging use of the fuels through taxes would achieve the desired environmental outcome with relative efficiency.

With agricultural chemicals, however, a multitude of factors--some of which are within the control of the farmer--determines the environmental damage associated with using these substances. In this instance, taxes might be only part of a more comprehensive strategy to reduce environmental damages from these chemicals. Other policy actions could include education in the proper use of agricultural chemicals or research and development of chemicals that are less harmful to the environment.

In the option estimated by CBO, a 10 percent tax was imposed on sales of agricultural pesticides and fertilizers. This tax raised an estimated $4 billion over the 1991-1995 period.

CONCLUSION

Existing environmental programs are typically based on specifying particular technological choices for polluters or putting limits on their emissions. These programs have improved the environment. An issue now facing the Congress is whether to go further and require more pollution abatement. But deciding this issue, in turn, entails determining how much flexibility to allow polluters and how to allocate the costs of the programs and controls.

The Congress may wish to pursue further abatement, and it may be willing to accept some uncertainty in the level of reduced emissions in exchange for lowering the cost of achieving whatever reductions occur. If so, then using pollution taxes would appear to be the preferred strategy. Even at lower levels, pollution taxes could fill gaps in the current regulatory program, inducing some cost effective actions to reduce pollution below current standards. In either case, they could also be an important new source of revenue.

REV-31 IMPOSE EXCISE TAXES ON AIR POLLUTANTS

Addition to CBO Baseline	Annual Added Revenues (In billions of dollars) 1991	1992	1993	1994	1995	Cumulative Five-Year Addition
Tax NO_x from Stationary Sources	1.4	2.1	2.1	2.1	2.1	9.8
Tax SO_x from Stationary Sources	1.8	2.6	2.6	2.6	2.6	12.2
Tax VOCs from Stationary Sources	7.0	10.1	10.1	10.1	10.1	47.5
Tax Emissions from Mobile Sources	1.9	2.8	2.8	2.8	2.8	13.0

NOTE: Estimates are net of reduced income and payroll tax revenues. The effective date for this proposal is January 1, 1991.

The imposition of excise taxes on air pollutants that form acid rain and ozone in the lower atmosphere could raise revenues and create incentives for additional abatement of pollution.

The pollutants believed to be primarily responsible for acid rain are sulfur oxides (SO_x) and nitrogen oxides (NO_x). Large industrial sources, notably coal-fired electric utilities, emit significant quantities of these pollutants. The resulting acid rain is thought to degrade surface waters and damage forests. Ozone pollution is produced when NO_x and volatile organic compounds (VOCs), which are emitted by industrial sources as well as by automobiles and trucks, combine in the presence of sunlight and other compounds. The resulting pollution has kept about 100 U.S. cities from attaining the current health-based ozone standard; other pollutants, such as carbon monoxide (CO), that are emitted by automobiles and trucks might also pose direct health hazards (see REV-29 and REV-33 for other taxes that might affect emissions of air pollutants).

Excise taxes on pollutants might have economic advantages over some alternative revenue sources. First, pollution taxes tend to discourage activities that impose costs on society, such as polluting, and may be preferred to taxes that adversely affect incentives to work and save. Second, to the extent that too little pollution abatement occurs under current regulations, a tax could increase the level of pol-lution control in an economically efficient manner. Pollution taxes set at or above the "marginal cost of pollution abatement"--that is, the cost to affected firms of eliminating an additional ton of pollutant--might encourage additional pollution abatement. In addition, pollution taxes redistribute the social costs of allowable discharges of pollutants given current control levels. Finally, the process of tax collection, and the observed responses of firms, would provide information that could be used to set future charges with more certainty about their effects on pollution levels.

Under current environmental control laws, firms that emit air pollutants must incur the costs needed to comply with regulations, but are not charged for allowable emissions. Taxing industry for these continuing emissions places an additional burden on producers of goods whose production or use emits air pollutants. Moreover, to the extent that pollution taxes eventually raised the price of consumer goods, including energy, they might be regressive--that is, they might constitute a higher share of the expenditures of low-income households than of households with higher incomes.

The marginal cost of pollution control varies, given the numerous industrial and other sources of SO_x, NO_x, and VOCs. The tax rates considered here can be interpreted as supplementing current regulatory controls. They are high enough to encourage some additional pollution control beyond that required by current regulations. Polluters with marginal pollution control costs lower than the taxes might be induced to take advantage of pollution control options not required by the Clean Air Act, thus reducing emissions of air pollutants below current levels in the least expensive way possible. While the taxes considered here are not indexed for inflation, increasing tax rates over time would prevent inflation from eroding either the abatement potential of the tax or the real value of revenues to the federal government.

Current proposals to reauthorize and strengthen the Clean Air Act address both the acid rain and the ozone problem. Enactment of these

proposals could weaken the rationale for pollution excise taxes, although substantial reductions in emissions of SO_x, NO_x, or VOCs would not be likely to occur during the first few years following the legislation. The revenue estimates presented here do not take into account the extent to which abatement resulting either from the charge or from subsequent legislation might reduce the revenue basis in the future. Similarly, except where specified, the estimates do not allow for changes in emissions that may occur over time because of industrial growth or as a result of compliance with current environmental legislation.

Tax SO_x and NO_x Emissions from Stationary Sources. Taxes of $150 per ton of SO_x and $250 per ton of NO_x emissions on electric utilities and large manufacturing plants would raise roughly $12 billion for SO_x and $10 billion for NO_x through 1995. The present monitoring and reporting system for stationary sources, operated by the Environmental Protection Agency and state regulators, could be adapted to support implementation of these taxes. The administrative burdens would be minimized if the taxes were based on the terms granted in air pollution permits.

Taxes of this magnitude could promote some additional pollution abatement. Some electric utilities and manufacturing plants might switch to lower-sulfur coals at less cost than paying the charge, while others might choose to operate their most heavily emitting plants less frequently. The charge would be too low, however, to encourage the installation of SO_x control devices. Methods currently available that can reduce NO_x emissions at roughly the same cost as paying the excise tax might be more widely adopted if the $250 per ton tax was imposed.

Tax Emissions of VOCs from Stationary Sources. Stationary sources of VOCs range in size from huge industrial facilities, such as chemical plants, petroleum refineries, and coke ovens, to small sources such as bakeries and dry cleaners. Their vast number and diversity make it difficult to estimate emissions and costs of abatement. A tax of $1,000 per ton on all stationary sources could elicit better information (since sources would be forced to compute or estimate tax liability), and might promote some abatement. This tax would generate revenues totaling $48 billion from 1991 through 1995.

The advantage of a broad-based charge is that it captures small sources, which are estimated to be responsible for approximately 80 percent of all VOC emissions from stationary sources. Since small sources of VOCs are not currently subject to regulation, a broad-based VOC charge might be administratively more difficult to implement than a tax limited to large sources. Confining the tax to large stationary sources would reduce revenues to $1.9 billion annually. Alternatively, the broad basis for the tax could be preserved if the tax on small sources was assessed on estimated emissions of the technologies used rather than on measured emissions.

Tax Emissions of NO_x, VOCs, and CO from Mobile Sources. A one-time charge imposed on new automobiles and light trucks, based on estimated pollution emissions rates and averaging $250 per vehicle, could provide nearly $13 billion in revenues from 1991 through 1995. The current "gas guzzler" excise tax is levied on new automobiles based on their fuel efficiency. Similarly, an emissions charge could be calculated on the emissions certification tests required under existing law for every new vehicle.

Legislation calling for more stringent tail-pipe emissions standards for automobiles and light trucks is being considered by the Congress. The cost of these stricter standards has been estimated to range from $61 to $139 per vehicle for new cars and light trucks. A tax on new automobiles and light trucks, based on grams emitted per mile and averaging $250 per vehicle, could encourage the purchase and manufacture of low-polluting and more fuel-efficient vehicles. This emissions tax would complement Corporate Average Fuel Economy (CAFE) standards for new vehicles, which require automakers to sell models that, on average, attain specified fuel economy ratings. The revenue estimates presented here take into account projected growth in new car sales and assume that new cars meet current tail-pipe standards, on average. If new cars become cleaner over time, or if a slowdown in the economy reduces new car sales, revenues collected may be less than projected.

Since earlier-model vehicles account for more than 90 percent of light-duty vehicles in use, applying a grams-per-mile emissions charge to earlier-model vehicles could encourage owners of these vehicles to retire them sooner in favor of newer lower-emitting vehicles and so could reduce pollution levels. In addition, an emissions tax on earlier-

model vehicles might offset the incentive given owners by the excise tax on new vehicles to keep their older vehicles. Older vehicles have been excluded from the estimate above because of the administrative problems in collecting a tax on older vehicles, and the difficulty of determining how high the tax would have to be to encourage retirement of vehicles. Since relatively more older vehicles are owned by lower-income households, a tax on older vehicles might be regressive.

REV-32 IMPOSE AN EXCISE TAX ON WATER POLLUTANTS

	Annual Added Revenues (In billions of dollars)					Cumulative Five-Year Addition
	1991	1992	1993	1994	1995	
Addition to CBO Baseline	1.6	2.4	2.4	2.4	2.4	11.1

NOTE: Estimates are net of reduced income and payroll tax revenues. The effective date for this proposal is January 1, 1991.

Over 60,000 facilities discharge nearly 300 billion gallons of wastewater per day directly into lakes, rivers, estuaries, and oceans. Taxing pollutants contained in the wastewater could raise substantial amounts of additional revenue, while creating incentives for additional abatement.

One common indicator of water quality is biological oxygen demand (BOD). BOD measures the effect of pollutants that encourage algae growth, which in turn depletes oxygen necessary to sustain much aquatic life. About 17 million pounds of such pollutants are discharged per day. Nearly 13 million pounds are discharged by publicly owned treatment works (POTWs); most of the remainder is discharged by paper and pulp mills, food processors, metal producers, and chemical plants.

Excise taxes on pollution might have economic advantages over some alternative revenue sources. First, pollution taxes tend to discourage activities that impose costs on society, such as polluting, and may be preferred to taxes that adversely affect incentives to work and save. Second, to the extent that too little pollution abatement occurs under current regulations, an excise tax could increase the level of pollution control in an economically efficient manner. Pollution taxes set at or above the "marginal cost of pollution abatement"--that is, the cost to affected firms of eliminating an additional pound of pollutant--might encourage additional pollution abatement. In addition, pollution taxes redistribute the social costs of allowable emissions of pollut-

ants given current control levels. Finally, the process of tax collection, and the observed responses of firms, would provide informa-tion that could be used to set future charges with more certainty about their effects on pollution levels.

Under current environmental control laws, facilities that discharge water pollutants must incur the costs needed to comply with regulations, but are not charged for allowable discharges. Taxing dischargers for these continuing emissions places an additional burden on these facilities. Moreover, to the extent that pollution charges eventually raised the prices of consumer goods, including food, they might be regressive--that is, they might constitute a higher share of the expenditures of low-income households than of households with higher incomes.

The cost of controlling another pound of BOD at POTWs and many industries regulated under the Clean Water Act averages between $0.40 and $0.70 per pound removed. A charge on BOD discharges of $0.50 per pound could encourage abatement at many manufacturing facilities and POTWs that face lower abatement costs. Assuming that the 17 million pounds per day of BOD discharges occur continuously throughout the year, a charge at this level would raise about $11 billion through 1995. Revenues would be less, however, to the extent that the tax led to abatement measures. While the tax considered here is not indexed for inflation, increasing the tax rate over time would prevent inflation from eroding either the abatement potential of the charge or the real value of revenues to the federal government. Pollutants other than those measured by BOD might also be considered as the basis for a water pollution tax, such as measured chemical oxygen demand, suspended solids, and heavy metals. Since some wastewater treatment processes reduce several pollutants simultaneously, discouraging one pollutant might also encourage reductions in others.

To simplify the implementation of a BOD-based water pollution excise tax, the discharge levels that are specified in the permits issued to every source of water pollution by state or federal governments could be used as the basis for levying a BOD tax. Levying a tax on effluents from POTWs, as well as from large industrial dischargers, would include residential and smaller industrial uses in the charge system, so that all significant point sources of effluents would be taxed.

POTWs could recover costs by raising residential and commercial sewer bills and by increasing the fees charged to industrial sources that pipe wastewater to the facilities. Including POTWs in the charge system might be more politically acceptable if the revenues were placed in a revolving fund used to finance enhanced public investment in pollution control equipment. Alternatively, the tax might be levied only on industrial sources of water pollution, excluding POTWs; doing so would limit the number of collection points and significantly reduce the tax base. Restricting the charge to non-POTW sources of pollution would reduce the revenues collected to $0.6 billion annually.

Currently, 39 states operate their own water pollution permitting programs under federal approval. Many of these states also collect revenues from fees based on the permits. These states might oppose a federal charge scheme if it was perceived as reducing their own fee revenues. Alternatively, the 39 states might argue that they should be able to keep a major portion of the revenues from a federal charge, thus reducing the charge's contribution to deficit reduction.

REV-33 IMPOSE A CARBON-BASED EXCISE TAX ON FOSSIL FUELS

Addition to CBO Baseline	Annual Added Revenues (In billions of dollars) 1991	1992	1993	1994	1995	Cumulative Five-Year Addition
CO_2 Stabilization Tax	22.5	33.2	34.3	35.7	37.2	162.9
CO_2 Reduction Tax	9.1	22.8	37.4	52.6	68.6	190.5

NOTE: Estimates are net of reduced income and payroll tax revenues. The effective date for this proposal is January 1, 1991.

Recent scientific evidence on the potential for global warming through the "greenhouse effect" has prompted concern about the level of fossil fuel use. The greenhouse effect results from the tendency of trace gases to trap excess solar heat in the atmosphere and thus affect the earth's climate. The most abundant trace gas is carbon dioxide (CO_2), which is produced when fossil fuels are burned. An excise tax proportional to the carbon content of coal, oil, and natural gas could generate substantial revenues, promote energy conservation, and stabilize or reduce domestic CO_2 emissions.

Imposing a carbon-based tax at the points where fossil fuels enter the economy--mine-mouth, wellhead, or dockside (for imports)--could discourage fossil fuel use and reduce subsequent carbon dioxide emissions. The tax rate on fossil fuels could be designed either to discourage future increases in CO_2 emissions or to reduce emissions from current levels by some target date. The relative carbon contents of coal, oil, and natural gas would dictate the specific tax rate for each fuel. Since each fuel emits different amounts of CO_2 per unit of useful energy obtained, the tax would not only discourage fossil fuel use, but would discourage using higher-emitting fuels more than lower-emitting fuels. The revenue estimates presented here take into account both the projected growth in fossil fuel use in the absence of a tax, and estimated emissions reductions in response to the tax. Under both options, the tax rate would be indexed for inflation. If the tax rate

was not adjusted over time for inflation, the abatement incentive provided by both these options, or the revenues raised, could be less than projected.

A "CO_2 stabilization" tax of approximately $28 (in 1991 dollars) per ton of carbon content of the three fossil fuels could nearly eliminate the projected growth in carbon dioxide emissions over the next 10 years. This tax rate is equivalent to a tax of approximately $17.00 per ton of coal, $3.60 for each barrel of oil, and about $0.45 per thousand cubic feet of natural gas (in 1991 dollars, based on average carbon content). In terms of current prices of fossil fuels, the tax equals about 40 percent of the delivered price of coal, and about 10 percent of the prices of refined petroleum and natural gas. Such a tax would raise $163 billion in additional revenue during the 1991-1995 period.

More ambitious emission targets--such as those considered in some proposed federal legislation--would require higher tax rates. A "CO_2 reduction" tax equal to $113 (in 1991 dollars) per ton of carbon content of fossil fuels could reduce emissions from current levels by about 10 percent to 20 percent by the year 2000. The potential economic impact of such a high tax rate might warrant phasing it in over time. Phasing in this tax over 10 years could raise $190 billion in revenues through 1995 (by which time the tax rate would be approximately $66, in 1991 dollars). This option could reduce CO_2 emissions in the year 2000 to about 7 percent below current levels.

Critics of CO_2 reduction policy contend that the scientific evidence concerning the potential adverse effects of atmospheric CO_2 may not yet warrant immediate efforts to reduce U.S. fossil energy use. Moreover, U.S. action might not significantly reduce global CO_2 concentrations, if other countries did not make similar efforts. In addition, adjusting to lower energy use would be costly, especially in the energy extraction and processing industries and in energy-intensive manufacturing sectors. To the extent that taxes on the carbón content of fossil fuels are similar to other energy taxes, the costs of such taxes might fall disproportionately on lower-income households or on some geo-

graphical regions (see REV-29). Finally, there may be alternative means of slowing global warming, including controls on other greenhouse gases, efforts to slow deforestation, and development of new technologies for improving energy efficiency and using alternative energy sources.

REV-34 IMPOSE A TAX ON AGRICULTURAL CHEMICALS

	Annual Added Revenues (In billions of dollars)					Cumulative Five-Year Addition
	1991	1992	1993	1994	1995	
Addition to CBO Baseline	0	0.9	0.9	0.9	0.9	3.6

NOTE: Estimates are net of reduced income and payroll tax revenues.

Agricultural chemicals are now seen as creating significant environmental hazards, particularly as nonpoint sources of surface and groundwater pollution. Also, concerns about chemical residues on food have increased in recent years. One means of addressing these concerns would be to tax the use of agricultural chemicals--for example, by imposing a 10 percent tax on sales of agricultural pesticides and fertilizers. Such a tax would raise about $4 billion in additional revenues in 1991 through 1995.

A reduced use of agricultural chemicals would, in the absence of other policy changes, cause production to fall and prices to increase, particularly of those commodities having the most intensive use of chemicals. To offset these effects, the Secretary of Agriculture would probably reduce the number of acres farmers must take out of production to participate in federal commodity programs. In that case, the prices of commodities covered by federal programs (wheat, feed grains, cotton, and rice) would not be substantially affected by the tax. This secretarial change could increase costs in the commodity programs. Prices of crops that do not have federal programs could increase somewhat in response to the tax, but the availability of imports would limit such price increases.

A tax of 10 percent would have relatively little effect on farmers' costs, since agricultural chemicals account on average for slightly less than 10 percent of the variable costs of production. Farm income would be expected to decline modestly, while the prices paid by consumers would not be greatly affected.

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Taxation of agricultural chemicals could be expected to reduce both their use and the environmental damage with which they are associated. To the extent that chemical residues on food are directly related to the application of chemicals, the presumptive health hazard should also decline. Federal budget savings and the environmental benefits of the tax would be partially negated if, as assumed, the Secretary of Agriculture relaxed acreage restrictions. Putting more acreage into production would mean that the lower application rates resulting from the tax would be partially offset by use of chemicals on more acres.

To the extent that the tax tended to reduce the incomes of farmers and agricultural chemical manufacturers, it would be at least partially offset by the probable increase in acres planted. The tax could also reduce the competitiveness of U.S. agricultural products in world markets. Its domestic impact would be greatest in the production of crops that use extensive amounts of chemicals and in regions of the United States that especially depend on chemicals for controlling pests.

Levying a flat 10 percent tax on all agricultural chemicals would implicitly assume that all chemicals have equally adverse impacts on the environment. There are reasons to suspect that this is not the case. Chemicals that have been introduced since 1972 have had to go through a more rigorous registration with the Environmental Protection Agency, which requires that manufacturers submit data on the toxicity and environmental risks associated with use of the chemical. Older chemicals have not been subjected to the same scrutiny and might be expected, therefore, to have more negative environmental consequences. Ideally, it might be preferable to tax chemicals on the basis of their impact on the environment. Given the large number of chemicals involved, however, and the limited amount of information regarding their environmental consequences, the design of such a tax would be complex and its administration burdensome. One partial solution would be to tax chemicals that have been registered since 1972 at a lower rate than those in use earlier that have not been re-registered.

Mr. PEASE [presiding]. Thank you, very much, Mr. Montgomery.

I would like to ask a question, when you have prepared the environmental revenue options that you discussed today, did you consider ancillary effects upon the economy, such as a reduction in consumer purchases of more expensive products?

Mr. MONTGOMERY. These taxes would affect the prices of final consumption items. The relative prices of goods would generally be affected by how much environmental degradation is associated with the goods and their production.

The more pollution is associated with a product, the greater the tax. This increase would eventually be reflected in the consumer price for that product.

These taxes would affect some industries more than others. There would clearly be distribution on regional consequences. These are actually one of the desired effects of the tax, as far as environmental policy goes. Encouraging consumers to shift away from buying goods that are produced with processes that harm the environment is one of the important ways that these taxes lead to environmental improvements.

Mr. PEASE. Thank you.

You mention the possible regressivity of a gasoline excise tax, and I guess some of the other taxes as well. I understand you may have some preliminary new findings on the regressivity of a gasoline excise tax. Is that correct and is there anything at all that you can share with us today?

Mr. MOODY. Would the gentleman yield one second on that question?

Mr. PEASE. Surely.

Mr. MOODY. Just to augment; I understand that there is a CBO study which compared the burdens of gasoline taxes with expenditures rather than income, and since expenditures are a much better index of lifetime income than transitory income, CBO did an expenditure incidences study which showed that gasoline taxes are relatively proportional.

I am sorry to jump in, but I wonder if you would enrich your answer to include that?

Thank you.

Ms. MARCUSS. That is correct.

CBO did a study in 1987 that looked at expenditures on gasoline, distributed both by family income and by total expenditure, which is a rough proxy for longer term or permanent income.

We found that gasoline taxes when measured relative to family income are noticeably regressive—that is, average taxes paid fall as income rises. This is also the case with other Federal excise taxes.

Measured relative to total expenditures, gasoline taxes are roughly proportional.

Mr. MOODY. Right.

Mr. PEASE. Could you elaborate on that concept for me? Perhaps you could give me an example using Mr. Moody or Mr. Pease or someone else. Assume we have a family and tell me what would go into the one calculation and not go into the other that would make that difference?

Ms. MARCUSS. The reason that CBO chooses to look both at expenditures and at income is that many families in any 1 year

may spend more than they earn in that year. So we look at statistics both on expenditures and on income.

The calculations are fairly alike once we have the measures of income and expenditures by family. We have gone farther in other work and looked at the effect on the indexed personal income tax and on the Government transfer programs that are indexed to prices. We have found that the changes through Government transfer programs mitigate the regressivity of Federal excise taxes.

Mr. PEASE. Well, within a given family, what would account for the difference between family income and family expenditures? Can you just give me some examples or ideas of what might go into those two different bases?

Ms. MARCUSS. From 1 year's observation, the limitation on family income is that families can use their savings in bad years, in order to maintain the necessary means of living.

Some families, indeed, do some long-term planning and save at certain points in their life when they have extra money. Therefore, for example, the level of expenditure for a young family is a better indication of permanent income than its income in that year. Or, for example, in a year of a recession, many families typically spend more than they earn in that year.

So those would be some of the differences. Families would spend down savings in the years in which their income is either unusually low or is lower than it will be in the future. The reason is that gasoline use is a necessity for most people.

Mr. PEASE. Would expenditure figures include the spending of borrowed money? Say if somebody borrows money to buy a car——

Ms. MARCUSS [continuing]. Yes.

Mr. PEASE. Or to buy a house, would that be calculated in their expenditures?

Ms. MARCUSS. Yes.

Mr. PEASE. So——

Ms. MARCUSS. CBO's use of family expenditure data is another means of trying to get at the borrowing power of the household, or, more generally, the longer term financial situation of the household.

It is a very imperfect measure as well. But it gives another insight and suggests that measures of taxes paid as a share of family income may overstate the regressivity of Federal taxes.

Mr. PEASE. Well, I would like to look at that some more. I have a hard time understanding how even those adjustments could make a difference between a family with income of, say, $15,000 and one with income of $85,000?

Mr. CARDIN. Would the gentleman yield for a moment?

Mr. PEASE. Yes, I would be happy to.

Mr. CARDIN. Let me see if I understand what you are saying. If a family has an income of $50,000 and consumes 50,000 dollars' worth of expenditures during a year, and another family consumes $100,000 of expenditures a year, on the average the family that spends $100,000 a year, spends twice as much on gasoline?

Ms. MARCUSS. On average, the incidence is proportional. At the highest incomes, however, there is a somewhat lower burden because you have open-ended levels of income at the top, while expenditures don't keep pace.

Mr. CARDIN. I thought we were talking about expenditures, not income.

Ms. MARCUSS. Well, even at that, the range of expenditures for gasoline do not keep pace with total expenditures for the most affluent.

Mr. CARDIN. What do you consider to be the upper end of expenditures?

Ms. MARCUSS. On gasoline?

Mr. CARDIN. It does not hold true at the upper income levels. I take it that you are talking about those who fall within a certain range because they generally spend a proportionate share of their expenditures on gasoline?

Ms. MARCUSS. CBO found that, in 1985, families in the top income group, with $50,000 or more in annual income, spent about $50,000 in that year.

Mr. CARDIN. Just one last question from your study.

Did it look at indirect costs associated with gasoline tax increases and how they would be shared among the different income levels?

Ms. MARCUSS. It did not, but at the moment CBO is working on a study that is trying to integrate indirect costs into the discussion of gasoline taxes.

We are not able to come up with one dollar measure; but, in about 1 month, CBO plans to publish a study that addresses this issue.

Mr. CARDIN. I find your conclusions interesting, and it is just not what I think that most people would expect to find.

Mr. PEASE. Mr. Cardin, it was unclear to me whether having asked me to yield, you were using my time, or do you want more time of your own?

Mr. CARDIN. No, thank you, Mr. Chairman.

Mr. PEASE. OK, Mr. Moody.

Mr. MOODY. Yes, I would like to have a little time, thanks.

I think the key is that people often who have low incomes do not have low lifetime incomes.

A student, a graduate student has a low annual income and he has a rather high lifetime income and so it is misleading to look at his or her gasoline expenditure that year as a regressive impact, relative to the total ability to pay over a longer period.

And 365 days is an arbitrary accounting snapshot but in the literature it is much more useful to look at lifetime incomes and so-called permanent incomes and that is probably most closely proxied by expenditures because——

Mr. PEASE. Would the gentleman yield?

Mr. MOODY. Yes, certainly.

Mr. PEASE. Then do these figures you have on regressivity or nonregressivity by expenditure involve expenditures over a period of time for families?

Mr. Moody suggests that a graduate student may have fairly low income and expenditures at one time, but higher later on, or are you talking about on an annual basis?

Ms. MARCUSS. The information we have is on an annual basis although we are able to look at it for more than 1 year.

Mr. PEASE. I appreciate the gentleman yielding.

Mr. MOODY. My point then is that it is on an annual basis but it is much more reflective of what their multiyear capacity to pay is. Gasoline taxes are roughly proportional to lifetime income or permanent income and expenditure surveys are probably the closest proxy to that, because expenditures do not fluctuate nearly as much as income.

You would not think it would be possible but upper income people actually do burn a lot more gas than lower income people. I will address my comments to Mr. Cardin.

As I understand it, they drive more expensive cars and they do a lot more discretionary driving. Their commute to work may not be very different, but their discretionary driving is different and their pleasure driving and the size of the car, and so forth differs.

At the high-income level that is probably not so true, but up to $80,000 or so, it is probably roughly proportional.

It is also true that as you move up the income scale, expenditures diverge from income because there is more and more savings at the higher levels of income.

So that the gasoline expenditures versus total expenditures still maintains a fairly close relationship than one I think most people would suspect.

Ms. MARCUSS. That is true.

Mr. MOODY. Thank you.

Mr. PEASE. Mr. McGrath.

Mr. MCGRATH. No questions, Mr. Chairman.

Mr. PEASE. Mrs. Johnson.

Mrs. JOHNSON. I just want to confirm with you your comment that a properly designed pollution reduction tax would decline with the degree of compliance. I personally have watched many, many small businesses invest heavily in pollution control equipment and I wonder, as professionals in this area, have you had any experience, is there any other country that heavily subsidizes the purchase of pollution control equipment on a 1-year or 2-year basis?

And then, have pollution taxes, that provide incentives to reduce the level of pollution, been phased down to zero when you reach compliance?

To me it is extraordinarily important that we not go across the board on this thing; that we not impose on every interest and every person of every income bracket, and so on and so forth, a tax for this purpose.

But on the other hand, when manufacturers reach compliance they should not carry this burden because in a very competitive environment that is a very difficult burden to bear.

The way that I heard your testimony was that you support that position, that a pollution tax decline to zero with compliance, and so, I am interested in your reaffirming that and any information you might have on any other tax system that functions this way, or that has special incentives in it for those who have to buy environmental compliance equipment.

Mr. MONTGOMERY. On the first part of your question about other countries and the types of tax systems that they have, I do note that there are pollution charges, at least at moderate levels in many of the European countries. Again, these charges are designed to harmonize with the regulatory system.

I would be happy to answer that question for the record. I do not have any more details, but I could give you something on what we know about those other countries' systems.

[The following was subsequently received:]

A number of countries tax the emissions of pollutants into the air or water or impose other environmental charges that are designed primarily to raise revenues. Some countries use a portion of the revenues generated by these charge systems to fund public and private environmental improvement projects. Other subsidies—in the form of investment tax credits, research and development grants, other grants not connected with charge systems, and subsidized loans—may also be available in these countries.

France, West Germany, and the Netherlands all have charges on emissions of a variety of pollutants into the water. In addition, France has a tax on air emissions. In France, revenues from water charges are used to cover administrative costs, and are also redistributed to dischargers through the use of grants, subsidized loans, and rewards for superior performance. Investment aid to industries in France reduces unit abatement costs by an estimated 12 percent on average. In addition, France is the only Western European nation that levies a charge on air emissions; much of the tax on sulfur dioxide is returned to industry to finance purchases of equipment for abatement and to conduct research and development activities.

Under the system that was implemented in West Germany in 1981, states may use the revenues to cover administrative costs, and for financial assistance to public and private pollution abatement activities. The system in the Netherlands is a mixed effluent/user charge. The Netherlands uses collected revenues to cover administrative and treatment costs and to subsidize investment by certain waste treatment facilities.

The United States tends to apply user or administrative charges, such as those levied by utilities that process wastewater, or charges collected under the state-run permit systems. These charges are intended to recover administrative costs of running programs, or to help defray the costs of treatment plants. The primary role played by direct financial aid for pollution abatement in the United States has been through the wastewater treatment construction grants program. Austria has a similar fund to promote the construction of municipal and sewage disposal facilities.

Mrs. JOHNSON. And how it compares to what we do.

Mr. MONTGOMERY. Yes.

On the second part of your question, there are several different ways in which you could design a pollution charge with the total tax liability of the firm declining as the emissions decline.

But depending on your purpose, you may or may not want those taxes phased out completely, at the point where you achieve compliance.

One way of viewing an environmental charge would be as a graduated incentive for compliance. Right now, the penalties are quite Draconian. You are either in compliance with the regulations of the State or the EPA or you are not; the fines may be so small that no one cares so hideously large that firms are forced to use extraordinary measures in order to achieve compliance.

One suggestion for environmental charges is that they be set at levels that give a measured economic incentive to come into compliance and that, if you were out of compliance, it would no longer be criminal or subject to huge penalties. Instead one would pay a tax that was set at a level comparable in some cases to the cost of achieving compliance.

The law says that you must install certain kinds of equipment and the cost per unit of pollution they remove is $100 per ton. A penalty of $200 per ton would be put into effect so that most industries and permanent facilities would have an incentive to be in compliance.

If they found themselves in extraordinary difficulties, they might choose to pay the tax instead. That is not the kind of tax, however, described in CBO's deficit reduction volume though.

Those were taxes that included both purposes. They provided incentives for reducing pollution, but they also provided revenues. This revenue base is the amount of emissions that are in compliance with permits.

CBO's revenue estimates assume that all of the emissions from a facility would be subject to the charge, not just emissions above the permitted level.

Mrs. JOHNSON. If you will excuse me, one of the terrible tragedies in what you are proposing is that the very companies that are having the most difficulty need their resources for the R&D to enable them to reduce production of destructive materials.

And I see that going on. When we talked about the CFC tax last year, one of the hard things to deal with was to be onsite in small companies who knew that there was equipment that they could buy out there to reduce their consumption of CFC's and were facing a tax burden in the next year that would further inhibit their ability to buy the very equipment we need for them to buy.

So I think to impose taxes without recognition of the compliance performance is to erode the very resources that those companies need to make further progress on this issue.

And one of the reasons I like my colleague from Connecticut, Mr. Gejdenson's bill, is because it is a noncompliance tax. If you do not comply, you have to pay.

And I think in the area of environmental tax, where we have so much regulatory law in place, and so much compliance capability and where we stress that these are the levels that are publicly set, that to impose a tax that does not reflect that judgment in our society, is to erode the very resources that we both most need and that those companies, particularly the smaller companies, most need to make those next steps environmentally.

And one of the problems down here is that we legislate for big companies and we forget about the little guy where a $50,000 machine or a $40,000 machine is big bucks.

So I am interested in anything that you can provide me in terms of other countries or other examples, within our law, where we tax nonperformance and challenge with a zero-out option for compliance.

Mr. MONTGOMERY. Thank you and we will do that.

[The following was subsequently received:]

Most of the charge schemes in other countries are combined with permit systems. Many of these systems base the charge on expected, rather than actual, levels of performance, and so provide little incentive for improvement. Exceptions occur, however, and the West German system of water charges is a major one. A firm is given a discount of 50 percent if it meets its actual standard. In addition, the basis on which the charge is calculated may be raised if a polluter repeatly exceeds maximum allowable volumes or concentrations. In 1989, the charge was eliminated for firms that discharge less than half of the minimum effluent standard. In France, the water charge is based on expected or average performance; for treatment plants, however, the charge is based on actual emissions. In the Netherlands, where the water charge is reputedly high enough to affect polluters' behavior, per unit charges are fixed, although they differ between firms and households and vary with the size of firm. Reduction of the charge rate is possible when pretreatment has taken place.

Mrs. JOHNSON. Thank you.

Mr. PEASE. Mr. Moody.

Mr. MOODY. As you point out, the pollution taxes have a lot of appealing economic properties. They internalize the decisionmaking for the polluter so that they take into account the social cost.

Someone suggested that if you really want to cut down on auto emissions the way to do it and to internalize the cost is to have the tailpipe brought right back into the compartment of the car. People would then be——

Mrs. JOHNSON. It would certainly reduce the tax base.

Mr. MOODY. But it would bring home to people the cost they are imposing on others. But taxes are less Draconian, they do not do it that way; they do it in the monetary system, they do not reduce the tax base, they increase the tax take.

But you also point out the information gaps we have. We do not know what they would do. We do not know the sensitivity or the shape of the demand curve.

Do we have any information on the effect of air pollution of let us say, of a 5-, or an 8- or a 9- percent raise in the gasoline tax? What would the air pollutions reductions be? Is there anyone who has done any calculations on that?

Is there any information?

Ms. MARCUSS. We do not have any direct information that could answer that question. What is difficult is that the use of gasoline is not directly related to the incremental direct environmental costs of any individual user of an automobile or a truck.

So we do not have any direct measures. One estimate does suggest that direct environmental costs of hydrocarbon and nitrogen oxide emissions from automobiles and trucks would range, on average, between 3.5 and 11 cents per gallon.

So there are some average estimates, but none that reflect individual activity.

Mr. MOODY. So there is a social cost ranging between 3 and 11 cents per gallon of gasoline?

Ms. MARCUSS. That is the only estimate currently available.

Mr. MOODY. If you could later share with me where that comes from, I would appreciate it.

Ms. MARCUSS. Certainly.

[The following was subsequently received:]

Mark W. French, "Efficiency and Equity of a Gasoline Tax Increase," Finance and Economics Discussion Series, #33, Federal Reserve Board, Washington, D.C. (July 1988). Estimate based on Environmental Protection Agency, Costs and Benefits of Reducing Lead in Gasoline, Chapter 6: "Benefits of Reducing Pollutants Other Than Lead," EPA-230-05-85-006 (February 1985); and Environmental Protection Agency, Complication of Air Pollutant Emission Factors, vol. 2: Mobile Sources, 4th ed., AP-42 (September 1985).

Mr. MOODY. Do we have simply a quantification of how much reduction of pollution would result from any given level of an increase in the gasoline tax?

Ms. MARCUSS. No, we do not. The most valid economic argument is probably that gas tax increases be considered only as part of a larger program because they are imperfect in many ways.

But there are certainly economic arguments that a reduction in the use of gasoline would have a positive effect on the environment.

Mr. MOODY. Right, you have got two demand curves. You have got the short-range-demand curve, where people are stuck with the car that they have. You have got the longer range demand curve, as people can adjust their capital or their car opting for smaller cars when the fuel prices went up for market reasons or OPEC reasons rather than for taxation reasons.

It is often asserted that the problem with the gas tax is that if you are using it for pollution purposes, not for revenue raising purposes. It penalizes people in open and windy populated parts of the country where there is no problem.

But is that not also true of tailpipe and other regulatory devices, where we are also penalizing those people at the cost of $100 a car or whatever it would be, has anyone compared the cost of a modest gas tax increase with the cost of a tailpipe emissions tax or some of the other restrictions that have been suggested?

Because it seems to me that is where the arguments may come down to on the gas tax, the people from Oklahoma or Montana resent a gas tax when they have no air pollution problem and yet, the solutions now being considered also impose on those people, through the capital cost increase in the car, taxes in areas where there is no "air pollution problem."

Is there anyone looking at those comparisons?

Do you see why politically we need to know those numbers?

Mr. MONTGOMERY. I see your point, clearly.

I do not know of any studies that have made that comparison directly. My calculations would be that the effect of a gasoline tax on emissions, especially one the size that you mentioned, has to be very small.

Because, if we take typical elasticities of demand for gasoline, which may be on the order of 0.2 or 0.3 or 0.5 at most——

Mr. MOODY [continuing]. In the short term?

Mr. MONTGOMERY. No, even in the relatively long term. It is difficult to tell what long-term elasticities are because of the effect of standards, which have been nonmarket mechanisms for improving the efficiency of new cars. Thus it is hard to infer just what unconstrained consumer choices would be.

Nevertheless, most estimates of even the longer term elasticities are a good bit less than one.

But whatever estimate you use, we are talking about increases of from 8 to 10 cents——

Mr. MOODY. Yes, 8 or 9 cents a gallon.

Mr. MONTGOMERY. The increase would be on the order of a 10-percent increase in the price of gasoline and that would produce, at most, a 2- to 3-percent reduction in the demand for gasoline, even if emissions were proportional to the demand for gasoline, which they are not. Emissions are probably less than proportional because you can save on gasoline without saving on emissions.

The result of a gasoline tax would provide a couple of percentage points of improvement in overall emissions.

Much larger increments than that are to be considered in the Clean Air Act amendments. So it is difficult to compare costs because the gasoline tax does not achieve the same goals.

Mr. MOODY. I appreciate that and let us chat later about that. Thanks.

Mr. PEASE. Thank you, very much, Mr. Moody and thank you Mr. Montgomery and Ms. Marcuss, and we appreciate your very useful contribution to our dialog and look forward to getting more information from you.

Thank you.

Our next panel will consist of Mr. Donenfeld, Ms. Johnson, Mr. Franzen, and Ms. Baird.

Mr. MOODY [presiding]. Thank you, very much. We have Douglas Donenfeld, board member and chair, finance, audit and budget committee of the Chicago Transit Authority. That is a city slightly to the south of Milwaukee, a Milwaukee suburb.

We have Christine Johnson, director of transportation planning, Port Authority of New York and New Jersey; and we have Jan Baird, vice president of Commuter Transportation Services, Inc., Los Angeles, CA; and we have a Gayle Franzen, chairman, Northeast Illinois Regional Transportation Authority.

Thank you, very much for being here. Let us start with Mr. Donenfeld?

STATEMENT OF J. DOUGLAS DONENFELD, CHAIRMAN, FINANCE, AUDIT AND BUDGET COMMITTEE, BOARD OF DIRECTORS, CHICAGO TRANSIT AUTHORITY

Mr. DONENFELD. Thank you, Mr. Chairman.

Mr. Chairman and members of the committee, I am J. Douglas Donenfeld, a member of the Chicago Transit Authority and the chairman of its finance, audit and budget committee. I wish to thank you for the opportunity to present testimony for your consideration today, during deliberations on the long-term strategy for the environment.

This testimony is being submitted on behalf of the Chicago Transit Authority and it will focus on the Federal tax subsidies for public transit passes as they pertain to air pollution.

The Chicago Transit Authority [CTA] operates the second largest public transportation system on the North American continent. Average weekday bus and rail riding totals 1.9 million trips and this translates to over 581 million trips per year. The CTA service area is comprised of the 221-square miles of the city of Chicago, plus 37 suburbs with a total population of 3.7 million persons.

As is the case for most large public transit operations, the vast majority of weekday rides involve the home-to-work commute. Of the 1.9 million weekday rides only 1,200 riders use employer-provided passes.

This represents less than 1 percent of our total riders. CTA knows that there are several reasons why the employer-provided pass numbers are so low. However, we feel that the overriding reason is that there is no meaningful incentive for employers to provide transit passes due to Federal tax restrictions.

In fact, a recent joint survey conducted by the Regional Transportation Authority and the Chicago Association of Commerce and Industry yielded two main findings.

First, employers did not know of the current tax advantages related to transit passes; and second, the reason that they had no knowledge is that the tax benefit is so small and restrictive that employers are not interested in learning about the provision.

Currently Federal tax law allows employers to subsidize their employees work commute on transit, up to $15 per month without such assistance negatively affecting the employees' taxable income.

Employers are also allowed to deduct the fringe benefit. When the Internal Revenue Service issued regulations they interpreted this provision to mean that if a transit subsidy over $15 per month was given to the employee, the entire subsidy would be included as taxable income.

Additionally if the $15 per month cap is exceeded the benefit is no longer deductible by the employer. This is known as the cliff provision. In contrast Federal law allows 100-percent nontaxable fringe benefit treatment for employee parking subsidies no matter how high the cost in parking is for employees.

We believe there should be parity for transit.

The correction of this inequity will encourage commuters to seek alternatives to the one-car, one-person work trip and assist in alleviating the growing congestion problems in our communities.

It will also help urban areas achieve Federal air quality standards by encouraging greater use of alternatives to the single occupant work trip. Many environmental groups endorse an increase in mass transit use as a means of combatting air pollution. Unfortunately, Chicago is one of those urban areas not in compliance with the air quality standards.

A favorable tax policy will help promote the utilization of CTA service as a means of reducing unwanted automobile emissions in the Chicago region. Increasing the use of CTA service will make a difference.

The discriminatory effect the Tax Code has against public transit hurts the people who work primarily in those jobs that pay a low hourly rate. Scraping up the $50 to $60 a month for a transit pass is difficult for these employees.

Employers looking for an innovative idea to attract and hold on to employees see the employer provided pass as an incentive that works. On the other hand, employer provided parking disproportionately benefits higher paid employees who are more likely able to pay for parking themselves.

We support the initiatives contained in H.R. 2265, a bill sponsored by Congressmen Matsui, to raise the cap from $15 per month to $60 per month. The favorable tax treatment that transit passes would receive under this proposal would eliminate the current inequity in the Tax Code. However, CTA sees this as putting the cart before the horse.

We suggest the committee should work with Congressman Matsui to, first, initially drop the controversial cliff provision; and second, begin to look at working up a solid plan to provide for the necessary revenues to replace those that will be lost because of the increase in the cap.

By dropping the cliff provision at the current $15 per month cap, and increasing the tax subsidy to those who are van pooling, the impact to the U.S. Treasury is estimated to be only $7 million a year.

The elimination of the cliff is in our mind, a major step to encouraging the use of employer provided passes. And this, of course, is only the first step. With an increase in the transit pass cap from $15 per month to $60 per month, we realize that there are potential negative tax revenue implications. It is estimated that extending the transit cap to $60 would cost the U.S. Treasury approximately $80 million a year. A revenue replacement must be found to offset the revenue loss.

In the past, the taxation of parking fringe benefits, to some degree, and an increase in the gas-guzzler tax were mentioned as possible revenue sources.

For instance, estimates show that eliminating the parking subsidy could bring in an excess of $1.5 billion per year pursuant to the Joint Tax Committee study estimates. A partial cap on the parking fringe benefit would provide more than enough to replace the lost revenue while maintaining the attractiveness of the parking fringe benefit.

I want to offer to you our assistance in considering these and other possible alternatives. In conclusion, tax policies should reinforce environmental policy by encouraging mass transit. Unfortunately, the Tax Code, as it is now, works against the environmental policy by encouraging automobile commuting over transit.

I urge the committee to work with Congressmen Matsui and McDermott, who testified earlier, and others who are concerned about mass transit and air quality.

Thank you, very much.

Mr. MOODY. Thank you, very much.

Ms. Christine Johnson.

STATEMENT OF CHRISTINE JOHNSON, DIRECTOR, OFFICE OF TRANSPORTATION PLANNING, PORT AUTHORITY OF NEW YORK AND NEW JERSEY

Ms. JOHNSON. Thank you.

I appreciate the opportunity of being here. My name is Christine Johnson and I am the director of transportation planning at the Port Authority of New York and New Jersey.

I have submitted for the record, my written testimony and would like to highlight two or three things that we feel are important in shaping tax policy as it relates to the environment.

By way of background, the Port Authority of New York and New Jersey is a bistate entity that operates many transportation facilities; tunnels and bridges, as well as a mass transit system connecting the States of New York and New Jersey, one of the densest and largest metropolitan areas in the region.

As have many other metropolitan regions, we have seen automobile registrations grow at two times the rate of population increases and VMT or vehicle miles traveled, grow at three times the population growth. This has resulted in extreme congestion and vehicular delays sometimes in excess of 45 minutes to an hour. Need-

less to say, this is contributing to our lack of compliance with the clean air standards.

Unfortunately in metropolitan areas—which I would remind the committee house about three-fourths of the population of the United States—we are not free, as we once were, to solve our problems simply by going out and building another bridge or another road.

Our solutions, increasingly are limited to making use of the roads that we have or better use of mass transit. Already we have some 85 percent of the people coming into the center of the city using mass transit, and yet, we still need to get a higher share to improve air quality.

It was that predicament that led us to engage in some fairly sophisticated market research. We ask auto users why they would sit in these kinds of queues. The results of these studies were startling. Those results have led me to appear before this committee today.

We found that some two-thirds of all of the auto commuters were in one way or another subsidized. Four-fifths had their parking paid for by their employers. And these results were confirmed again and again, in other surveys that either we repeated or the New York City Department of Transportation repeated or the MTA repeated.

That kind of subsidy is not unsubstantial. It amounts to some $2,600 in our region compared to the allowable transit tax benefit of about $180.

Mr. MOODY. $2,600 per year?

Ms. JOHNSON. $2,600 per year.

I think under any estimate we would agree that is not a level playing field. I think that the question that this committee faces is whether or not making the playing field "level" would make a difference.

I think we are particularly qualified to give that answer which is: yes, but not at $15. We were one of the only regions to coalesce to market the $15 tax benefit as a stand-alone benefit in the form of these transit checks that I think have been made available to you.

What we found in the last 3 years, of marketing them as a stand-alone benefit, is that there is substantial interest among employers; to the tune of some 1,000 employers who have signed up with us.

We have also found, however, that the $15 is not particularly worth their administrative costs in giving it to their employees. In fact, in surveys we find, nearly 40 percent have indicated that they would be far more likely to sign up with us if the tax benefit level were higher.

Some nearly half of the people who are currently enrolled would prefer to give a higher benefit to their employees if they could. Not only is it hardly worth the administrative cost of employers, it is really not worth that much to the commuter. In our area the average cost is $120 per month, and $15 is only 12 percent of that cost.

And so it is for these reasons that we are strongly urging you to increase the cap to $60 and more importantly, making it as simple for employers to offer that benefit to their employees as it is to offer free parking to their employees.

We are concerned with the Matsui legislation that would require the filing of a nondiscrimination plan. We feel that would add a burden that not only would prevent employers from signing up; it would, in fact, take employers who have already signed up and perhaps discourage them from making use of this.

We also strongly urge that the benefit be made available to car pooling and van pooling as that is the most effective transportation in suburban areas.

With that, I thank you, very much for this opportunity.

[The statement of Ms. Johnson follows:]

Testimony of

Christine Johnson

Director, Office of Transportation Planning
Port Authority of New York and New Jersey
before the
House Ways and Means Committee
U.S. House of Representatives

March 7, 1990

Good morning. My name is Christine Johnson. I'm Director of the Office of Transportation Planning, representing the Port Authority of New York and New Jersey (Port Authority). I appreciate the opportunity to be here today to urge your support for increasing the value of the federal tax benefit for transit passes, a program which holds great promise in reducing traffic congestion and air pollution.

The Port Authority is a bistate authority created by New York and New Jersey in 1921. Its purpose is to plan, develop and operate transportation facilities and world trade projects that promote commerce in the region. Today the Port Authority's jurisdiction encompasses a seventeen county area with over 15 million inhabitants. This area, which includes New York City, has within its boundaries the largest concentration of transportation facilities in the world. We are also proud that this region serves as the financial and commercial center of the country.

The Port Authority operates a vast array of transportation facilities including bridges, tunnels, bus terminals, an interstate rapid transit system and the region's three major airports. Each year over 300 million people use these facilities. Our transportation network is part of a regional system which is the backbone of the region's economy. For example, each workday, two million workers travel to the commercial center of the region, the Manhattan business district. It is only because of the availability of the region's extensive network of transit services and vehicular facilities that such demand can be accommodated.

However, over the last decade, our region's transportation network has experienced significant increases in vehicular congestion. All our roads, tunnels and bridges are now operating at or beyond capacity. The result is long delays in crossing our facilities leading into Manhattan, delays as long as 45 minutes to an hour on some mornings. Similarly, delays of up to an hour persist on other agencies' transportation facilities connecting Manhattan with other parts of the region.

One of the serious impacts of traffic congestion is on the quality of our air. Auto emissions have been shown to be the primary contributor to our serious air pollution problems. New York City, in particular, cannot meet current air quality standards for carbon monoxide and ozone. Auto emissions account for 90% of the carbon monoxide in the City, and almost half of the chemicals that react to form ozone. Much of our recent effort to meet ambient air quality standards has been directed to finding ways to reduce auto use.

Over the last few years, the Port Authority has been working closely with other governmental and business groups to address these problems. However, our efforts are undermined by federal tax policies that encourage rather than discourage use of single occupant vehicles during commuting hours. Currently, an employer is permitted under federal law to provide free parking to an employee as a tax-free benefit regardless of its value. In Manhattan's business district, where parking costs average over $2600 a year, the availability of a tax-free parking space is a major incentive to drive to work.

The poverful influence of free parking on commuting patterns is evidenced by a number of surveys done within the last fev years. In 1984, the Port Authority conducted a survey of drivers using its facilities for commuting to work in Manhattan during the morning rush hours. The survey shoved that 64% of these drivers received some type of auto-related subsidy from their employers. The most common subsidy by far, almost 84 percent of all subsidized drivers, was a free parking space. In 1986, the Nev York City Department of Transportation conducted a similar survey of drivers coming across their bridges into Manhattan. Again, a substantial number of the drivers were found to have received some auto subsidy from their employers; a frequent subsidy was a free parking space. Finally, in 1988, the Port Authority, the Nev York City Department of Transportation and the Metropolitan Transportation Authority held an extensive series of focus groups vith people who drive to work to find out why they chose to drive and endure extensive delays and traffic problems rather than use available public transportation. In almost every case, the drivers vere found to have received some type of auto subsidy from their company. Again, the most common benefit vas a free parking space.

All of our research indicates, however, that some drivers would be willing to use public transportation if their employer gave them a transit benefit. In the 1984 Port Authority survey, for example, as many as 26 percent of the auto commuters indicated that they vould switch to transit if a significant transit benefit vere available. The Nev York City survey also indicates that a significant transit benefit vould cause some drivers to switch to transit. Further, the impact of even a modest diversion from auto to transit could have a very significant impact on our traffic problems. For example, if we were able to remove between 10 percent to 15 percent of current drivers using our Lincoln and Holland Tunnels in the morning we could reduce delays by two-thirds, from approximately 45 minutes to 15 minutes. This diversion represents only 2100 drivers in the peak hour!

Hovever, employers are not free to provide a sizable incentive for using public transportation. Prior to 1984, any transit benefit for commuting purposes vas taxable. In 1984, the IRS agreed under prodding from Congress to treat a small transit benefit of up to $180 a year or $15 a month as a de minimis benefit and not subject to taxation. This small benefit was undermined, hovever, by the fact that any employer that gave more than $15 a month to his employees vould have to treat the entire amount, including the first $15, as taxable salary. This quirk referred to as the "cliff effect" discourages employers from participating in transit pass subsidy programs in regions like our own vhere monthly transit commuting costs far exceed $15.

Despite the limitations of the current $15 transit fringe benefit, ve have sought to use it to promote transit. In 1986, the Port Authority in cooperation with the Nev York Metropolitan Transportation Authority (the region's and nation's largest transit agency) and NJ Transit, the Nev Jersey State transit agency, created TransitCenter, a public-private alliance to promote transit. Working with a major federal grant, TransitCenter created a nev and unique way to offer the transit fringe benefit. TransitCenter developed the nation's first regional transit voucher, called TransitChek, as a low cost and administratively simple way to give this nev $15 transit benefit to employees.

TransitCheks are $15 vouchers which are sold to employers. Employers distribute the vouchers to employees who can then take these vouchers to purchase tokens, tickets or passes from any transit operator in the region. Since October 1987, almost 1000 companies have joined the TransitChek program, making TransitChek the largest transit benefit program in the country. This is a promising trend. However, these companies represent less than 1/2 percent of the region's companies, too small a number to have any impact on traffic congestion.

The potential impact of TransitChek, hovever, is evidenced from a recent survey of over 500 companies that had been in the TransitChek program for over six months. The survey shoved that 15 percent of the employees who received TransitChek reduced their use of automobiles or taxis each month for commuting purposes, and 14 percent reduced their use of automobiles or taxis for non-commuting purposes. Each vehicle taken off the road means less congestion, pollutants, and energy usage. Further, each TransitChek generated additional revenue for transit operators in the region through additional rides taken by TransitChek recipients--rides that would not have been taken but for the availability of a transit benefit.

However, this potential will go unrealized if the number of companies that participate in TransitChek is small and the attraction of this benefit is low. For this type of program to gain widespread use, we need its acceptance by industry leaders which are the largest companies. These companies have refused to participate because the benefit is too small compared to the expense and time associated with going through their complex approval processes. They also believe that their employees would not appreciate such a small amount. Our TransitChek survey supports the view that companies would be more interested in a larger benefit. Over 38 percent of surveyed companies indicated that they would have been more likely to have enrolled in TransitChek if the subsidy were higher, and 44 percent of the companies would increase the amount of the benefit if they could.

The high monthly cost of commuting by transit is another reason why the transit benefit must be larger if it is to cause some drivers to switch. For example, a typical worker commuting into Manhattan on the region's commuter trains, pays over $128 a month. For New York City subway commuters, approximately $46 a month is required. The current $15 a month covers only 12 percent of the rail commuter's costs and 33 percent of the costs to city subway-only commuters. Nationally, the average figure for monthly transit commuting is approximately $60 a month. If the transit fringe benefit cap were to be increased to $60, almost 47 percent of the monthly cost for the non-Manhattan commuters and all of the expenses for the subway-only user would be covered. At the $60 level, we would clearly see a more significant impact on reducing auto use.

Furthermore, to ensure that we can achieve a significant level of participation among employers in offering the transit fringe benefit, we must ensure that it is flexible and administratively easy for a company to offer. One of the reasons for the TransitChek program's rapid growth even at the $15 level is that an employer can implement quickly without any paperwork requirement. It is also used in a number of ways that meet the varying needs of employers. TransitCheks are used for recruitment programs, to orient new employees, as a bonus or for merit recognition, and as a monthly benefit. All of these uses help attract employees to using transit. It is important, therefore, that we preserve this administrative ease and flexibility, if we are to attract employers to participating in the transit benefit program.

The Port Authority supports efforts like Congressman Matsui's bill H.R. 2265. However, we are concerned that this bill would in some ways undermine efforts to market the transit fringe benefit because of its requirement that a separate, non-discriminatory plan be submitted before a company can offer this benefit. Clearly, no such requirement exists for offering the more valuable benefit of a tax-free parking space. But even more important, in this day and age of cost-cutting, companies are loathe to take on new and potentially burdensome requirements if they can avoid it. As I have said previously, one of the major reasons for TransitChek's growth in our region is how simple it is to use.

Certainly, if the benefit were left at $15 a month and H.R. 2265's plan requirements were adopted, we would lose a substantial part of our enrollees. It is not worth their time or money to offer a small benefit where there is additional recordkeeping and administrative responsibilities. We would also lose some of the program's flexibility allowing it to be used for such purposes as recruitment or relocation programs. But more importantly, we believe that commuter benefits should be treated similarly whether it is a parking or transit benefit. Otherwise, federal tax law would encourage the use of the easiest benefit to implement. For these reasons, we strongly suggest putting the transit benefit in the same category as parking benefits. We urge that the transit pass provision be included in section 132(a)(4), the subsection authorizing parking benefits.

Finally, many suburban parts of our region are experiencing heavy traffic congestion as well. We find that public transportation in those areas is not the complete solution to traffic problems. Rather, ridesharing programs that encourage carpools and vanpools have become important tools to help reduce traffic. We support broadening the current definition of the transit fringe benefit to include such ridesharing services.

We urge, therefore, the Committee to do the following:

1. Increase the transit cap to $60 to encourage greater use of transit;

2. Maintain the administrative ease and flexibility of the current transit fringe benefit by amending the working condition fringe benefit section (section 132(h)(4)) to incorporate the transit benefit without a requirement to adopt specific written plans;

3. Expand the permissible use of this benefit by including vans and carpools, both of which are important modes in areas that do not have available reasonable transit alternatives to driving alone; and

4. Eliminate the present quirk in the transit benefit regulations that treats the entire employer-provided transit benefit as taxable if the monthly cap is exceeded.

Amending the working condition fringe section of the federal tax law to provide for a transit benefit of $60 a month is supported by all interest groups who have a stake in improving the vitality of our country. It puts the destiny of our region in our hands and it begins to reorient federal tax policy to encourage travel modes that are less harmful to our environment and supports economic growth. We hope you will consider this proposal favorably.

Thank you for the opportunity to present our views on this subject. I would be pleased to answer any questions you may have.

Mr. MOODY. Thank you, very much.
Mr. Franzen.

STATEMENT OF GAYLE M. FRANZEN, CHAIRMAN, NORTHEAST ILLINOIS REGIONAL TRANSPORTATION AUTHORITY

Mr. FRANZEN. Thank you, Mr. Chairman.

My name is Gayle Franzen and I am the chairman of the Regional Transportation Authority in Chicago and for purposes of brevity I will go off of my prepared oral remarks and just be very brief by saying, and I will try not to be redundant in talking about what a lot of people, including what Representative McDermott and Mr. Donenfeld have discussed.

Let me just say that we, obviously, in transit need your help. As I understand the National Transportation Plan that will be announced tomorrow by Secretary Skinner, the greater burden in the future on funding mass transit will go toward the States.

We, in Illinois, specifically, the Governor and the State legislature, acted last year to raise the State's gas tax. This has added an additional $1 billion to our capital program in the next 5 years in the Chicago metropolitan region.

We, in Illinois, are doing and have done the politically difficult thing to do in helping ourselves and in anticipating what will be coming out of Washington with this Federal transportation policy.

What you can do for us or what the panelists this morning have been referring to in regards to the transit checks versus parking subsidies. We desperately need your help to do something that we think is politically easy to do, and it is obviously extremely beneficial to us in transit, and again, for purposes of brevity, I would say, please, please we need your help. We think this particular piece of legislation does, in fact, do that and I have heard comments here this morning about there are ways to neutralize the effects on the loss of revenue, and I agree with that.

I think there are areas that we can compromise but the point is, this is a way that I think that Congress can help transit dramatically without going back to their constituents and saying, we have raised taxes.

Let me also say, however, that like my Governor, who last week was in this town and strongly stated his support of a national gas tax, I do also support such a move and would hope to work with this committee in the future toward that goal.

Thank you, very much.

[The statement of Mr. Franzen follows:]

TESTIMONY OF

GAYLE M. FRANZEN, CHAIRMAN

NORTHEAST ILLINOIS REGIONAL TRANSPORTATION AUTHORITY

BEFORE THE

HOUSE COMMITTEE ON WAYS AND MEANS

MARCH 7, 1990

Mr. Chairman, members of the committee, my name is Gayle Franzen and I am Chairman of the Regional Transportation Authority in the Northeast Illinois region. I am here today to testify on behalf of the RTA concerning the environmental effects of certain tax policies in the transportation field.

The RTA is the financial oversight and planning agency which is responsible for public transportation service in the Chicago metropolitan area. We work in partnership with three agencies which actually provide the service in our area. Those agencies include:

- The Chicago Transit Authority, providing bus and urban rail service in the City of Chicago and nearby suburbs,
- PACE, which is the principal provider of bus service in the suburbs, and
- METRA, which is responsible for commuter rail service in the region.

Because our region ranks near the top in dependence on public transit, the RTA has gained considerable experience in assessing the impact of various federal policies on commuting choices. We feel this experience may be helpful to the Committee on Ways and Means as you examine the environmental impacts of tax policy. The committee has asked for testimony on the effect on air pollution and energy conservation of several policy options which affect transportation. I believe our current tax code provides incentives which lead to increased pollution and decreased energy conservation. Before addressing those issues in more detail, I would like to discuss briefly where we stand today.

In the current debate over renewal of the Clean Air Act, the contribution of automobile emissions to air pollution has been well documented. Autos are the primary contributor to carbon monoxide pollution and a substantial contributor to ozone pollution as well. Automobiles caught in traffic jams are even

more harmful to the environment because idling engines produce higher levels of emissions.

What has been less well documented is the role of public transit in reducing pollution. Because of the focus on cleaning-up so-called "dirty buses," many policymakers seem to feel public transit is part of the clean air problem, not part of the solution. In fact, public transit is integral to any effort to reduce automotive pollution. When compared to automobiles on a passenger mile basis, a transit bus emits only 25% of the of the carbon monoxide and only 11% of the hydrocarbons. Urban and commuter rail systems provide even greater environmental benefits because of the heavier passenger loads they carry.

To those of us in the business of providing a public transit option to the use of the automobile for commuting, it is axiomatic that encouraging people to get out of the single occupant auto and into a bus or train will lead to reduced automobile emissions and improved air quality.

However, when we look at current federal tax policy, we see very powerful incentives for commuters to drive alone to work and very weak incentives for them to use public transit. The most glaring inequity is the difference in treatment between employer-provided parking and employer-subsidized transit passes as fringe benefits. In the 1984 tax bill, Congress included employer-provided parking in the category of Working Condition Fringe Benefits, allowing the full value of such parking to be excluded from taxable income for the employee. In the same bill, monthly transit passes were put into the De Minimis fringe category, but with a cap of $15 per month. To make the disparity even worse, the IRS issued regulations on transit passes which installed a "cliff" on the transit pass benefit: if the employer subsidy exceeded $15 per month, the entire subsidy is considered taxable income.

In Chicago, this disparity leads to the following situation. An executive working in the Loop can drive his car alone to work and receive a $250 per month subsidy. His secretary, commuting to work on CTA, would receive a benefit of only $15 per month, or about one-fourth the cost of a monthly pass.

Recently, the RTA conducted a survey of 396 employers in the Chicago region in order to help us assess the practices of businesses in the area of commutation benefits. The survey was conducted in cooperation with the Chicago Association of Commerce and Industry (CACI). The survey was intended to inform employers of the existing program, solicit their comments on proposed

changes, obtain information on their support for employees' transportation costs and determine their interest in selling transit passes to their employees.

The survey told us that firms in our area have taken their cue from the federal government when it comes to offering commuting benefits. Forty-two percent of the firms said they offer subsidized parking to employees. Fewer than 1% said they offer a transit pass subsidy and 75% of the firms were not even aware the tax code allowed any such subsidy at all. Figures are similar in other major metropolitan areas.

The impact of the federal policy on commuting choices is painfully obvious. Put simply, the federal tax code gives the following message to commuters: "Drive your car alone to work." At the very least, the tax code should be neutral when it comes to commutation benefits.

A policy of neutrality has not been tried in the United States, but when it was put into effect by the Canadian Government for its own employees, the impact was positive. When benefits for parking and transit were made more equal, the number of employees driving alone to work decreased by 21%.

Representatives Rangel, Matsui, Kennelly and Foglietta have also introduced legislation which would address the current tax code preference for free parking by removing the cap on monthly transit passes as a fringe benefit. We at the RTA are supportive of such legislation.

The Committee has asked for testimony on limiting employer provided parking benefits. Our view is that the best approach to equalizing benefits is to take the cap off the transit benefits, not to reduce existing fringe benefits.

In any case, balancing the treatment of employer-provided commutation benefits will almost certainly result in a reduction in vehicle miles traveled in our major metropolitan areas and improvements in air quality.

The committee has also asked for testimony on the environmental impacts of an increase in the federal excise tax on gasoline and diesel fuel. While I am not prepared to testify on the effects of such increases on the use of automobiles, I can comment on the use of such taxes to provide improved transportation systems, thereby relieving pollution caused by congestion and excessive use of the single occupant auto.

In Illinois, the Governor and the state legislature acted last year to raise the state's own fuel taxes. This action will provide for the RTA a needed infusion of $ 1 billion in capital improvement funds. On the federal level, the gas tax was last increased in 1983. Contrary to representations made at the time, the one-cent set-aside for transit has not produced additional capital resources for transit. Rather, it replaced general fund support for programs administered by the Urban Mass Transportation Administration (UMTA).

Like Governor Thompson, I support an increase in the federal gas tax if it is devoted to transportation improvements. However, there are additional actions which can be taken with or without a gas tax increase, to improve the federal transit program.

Because of the practice in the Federal government of using trust fund balances to offset the deficit, the balance in the Mass Transit Account of the Highway Trust Fund is now approaching $ 7 billion -- roughly five years worth of current spending levels from that account.

I raise this point for an important reason. Before considering another increase in the federal gas tax, it would be very helpful if the committee would examine ways to release the funds now building up in the trust fund. Raising fuel taxes which cannot be spent for transportation improvements would break the promise made to the American people when the tax was first devoted to the Highway Trust Fund in 1956.

Mr. Chairman, I appreciate the opportunity to appear before the committee today. I look forward to working with you to create a tax code which contributes to cleaner air by taking a balanced approach to tax provisions affecting transportation.

Mr. MOODY. Thank you, very much.
Ms. Baird.

STATEMENT OF JAN K. BAIRD, VICE PRESIDENT, COMMUTER TRANSPORTATION SERVICES, INC., LOS ANGELES, CA, ALSO ON BEHALF OF THE ASSOCIATION FOR COMMUTER TRANSPORTATION

Ms. BAIRD. Thank you, Mr. Chairman and Congressmen.

My name is Jan Baird and my comments represent the positions of my organization, Commuter Transportation Services, as well as the Association for Commuter Transportation.

Commuter Transportation Services is the oldest and largest commute management company in the Nation. We currently serve over 2,500 major employment sites as well as the general public in an area of southern California which encompasses 12 million people.

Southern California exemplifies the strong attachment of Americans to their cars. Residents of our region put more than 94 billion miles on their vehicles, just within the State in 1987. It has been suggested that all that is needed to balance the Federal budget is to charge southern California drivers an extra $2 a mile.

It is no surprise that southern California has the worst air quality in the Nation and the majority of the problem comes from vehicle emissions. In response, local, regional and State agencies have implemented a variety of traffic mitigation programs.

The most ambitious and far reaching of these is the South Coast Air Quality Management District's Commuter Program, officially known as regulation 15. Under Regulation 15 employers with 100 or more employees at a single worksite, must develop and implement a plan that decreases the number of employee commute trips.

Employers who fail to submit plans may be fined $25,000 a day or face imprisonment. The goal of the regulation is to increase the number of people in each vehicle from the current 1.1 per car to 1.5.

Obviously a company must try a variety of strategies and incentives to reach this goal. Unfortunately Federal tax policies severely hamper employer efforts. In fact, it actually encourages automobile use. Federal tax policy allows free or subsidized employer-provided parking as a tax free benefit and it is regarded as a cost of doing business so that it is fully tax deductible.

Most major employers provide free or subsidized parking to their employees, thus, giving preferential treatment to the commute choice that increases congestion, increases smog and increases the use of fuel.

Employers actually invest 57 times more money on parking than they do in ride sharing incentives. In a regional survey in 1985, over one-half of the employers spent less than $5 per employee per year, on ride sharing programs, yet as much as $3,000 per year per employee on parking.

Since regulation 15, the major companies in our region are now spending between $50 and $200 per employee per year on their commute management programs.

Considering parking as an at-work benefit much the same as office space simply misses the mark. There are several parking management strategies which get people out of their cars. A versatile and effective way is an employer-provided commute allowance. An amount is offered each employee and an employee can choose to spend the money for parking, transit, car or van pools, or put it in his pocket.

Research shows that when parking costs the commuter real cash, as many as 30 percent will switch to transit or other ride sharing modes. Our free market economy has made America the envy of the world. And applying the same principles to the commute will also be successful, allowing employers to offer a commute allowance as a working condition benefit allows the free market system to work.

While our organization does not advocate taxing parking benefits, we do, however, encourage legislation which provides fair treatment of commute benefits. The best effort in this regard, and one which we strongly support is H.R. 2265 sponsored by Congressman Matsui.

H.R. 2265 would provide more equitable tax treatment of employer provided transit and van pool benefits. The State of California has recognized the value and effectiveness of this approach and we have enacted a law that exempts employer provided van and transit subsidies from State taxation.

H.R. 2265 is also in harmony with the public/private partnership message being sent by Washington. Through it the Federal Government will help provide more than a clean air mandate; it will provide a framework for change.

Clean air strategies must be directed by Congress, not by the IRS. When we, as a society, make parking a tax free benefit and tax transit and van pool benefits, we send the wrong message. Americans should not be encouraged to drive alone.

In this game where the winner has been smog and gridlock, it is time to change the rules. And only you can change one of the most significant and least understood rules and that is the Tax Code.

Thank you.

[The statement of Ms. Baird follows:]

TESTIMONY OF JAN BAIRD
COMMUTER TRANSPORTATION SERVICES, INC.

Commuter Transportation Services, Inc. is the oldest and largest commute management company in the nation. We currently serve over 2,500 major employment sites as well as the general public in a four county area of Southern California, encompassing a population of approximately 12 million people.

Southern California exemplifies the attachment of many Americans to their cars. Residents of our region put more than 94 billion miles on their vehicles traveling within the state in 1987. If every resident in Southern California paid $2 for each mile driven, the amount collected would wipe away the national deficit. At least as valuable is the time lost in traffic, over 628,000 hours a day which is equivalent to 72 years or over 150 million wasted hours a year.

It's no surprise that Southern California has the worst air quality in the nation and the majority of the problem comes from vehicle emissions. In response, local, regional and state agencies have implemented a variety of traffic mitigation programs. The most ambitious and far-reaching of these programs is the South Coast Air Quality Management District Commuter Program, officially known as Regulation XV. (The air district to the north of the South Coast District has also just approved a similar ordinance -- Rule 210 of the Air Pollution Control District of Ventura County.) Under Regulation XV, employers with 100 or more employees at a single work site must develop and implement a plan that decreases the number of employee commute trips. Employers who fail to submit plans may be fined $25,000 a day and face imprisonment.

The goal of the Regulation is to increase the average vehicle ridership from the current 1.1 persons per car to 1.5. Obviously, a company must try a variety of strategies and incentives to encourage this very significant change in employee travel habits. Unfortunately, federal tax policy complicates and discourages employer efforts.

Currently, elements of Federal tax policy actually encourage automobile use. Federal tax policy allows free or subsidized employer provided parking as a tax free benefit. The value of this benefit in urban areas can be as much as $300 per month. At the same time, since employer provided parking is regarded as a cost of doing business, the full value is an employer deduction for tax purposes.

Parking is heavily subsidized in both highly congested areas where parking spaces are scarce and expensive, and in suburban areas where parking is free and abundant. Most major employers provide free or subsidized parking to their employees, thus giving preferential treatment to the commute choice (driving alone) that increases traffic congestion during peak commuting hours, increases vehicle emissions and increases the use of fuel by commuters.

With the average cost of a parking space ranging nationally between $10,000 and $20,000, employers spend a lot of money on parking, especially when compared to their commute management programs. Employers invest 57 times more money on parking than they do on ridesharing incentives. In a regional survey in 1985, 65% of the employers responding spent less than $5 per employee per year on ridesharing programs, and only 7 percent spent over $50 per employee per year. The major companies in our region are now spending between $50 - $200 per employee per year on their commute management programs.

Continuing to classify parking as an at-work benefit and transit as a de minimis benefit also represents a regressive distribution of employee benefits. Particularly in urban central business districts, those earning above average wages tend to benefit most from parking subsidies. The majority of transit users in the same area are likely to receive lower wages and their transportation subsidy if any, is most likely to be much lower. The current tax law also does not allow for the cost of transit increases, meaning that the increasing portion of costs must be borne by the employee.

Considering parking as an at-work benefit, much the same as office space, simply misses the mark. Parking management strategies can positively impact mode choice. Consider the following:

1. Preferential Parking - Generally associated with rank and seniority, prime parking spaces can instead be reserved for car and vanpoolers.

2. Parking Pricing - In urban areas where parking demand exceeds supply and transit access is adequate, a shift from free parking to charging full market rate can decrease solo driving rates by approximately 20 percent. Parking pricing is a strategy which applies cost and subsidy as tools to change the way people choose to commute to work. It is also flexible. Employers can increase their charge for drive-alone commuters or reduce parking charges for carpoolers and vanpoolers.

3. Commute Allowance - Perhaps the most versatile and effective strategy in changing commute behavior is through an employer provided commute allowance. A flat amount is offered each employee and the employee can choose to spend the money for parking, transit, car or vanpools, or put it in his pocket. Research shows that when parking costs the commuter real cash, as many as 30% will switch to transit or other ridesharing mode. Our free market economy has made America the envy of the world. Applying the same principles to the commute will also be successful. Allowing employers to offer a commute allowance as a working condition benefit allows the free market system to work.

Another benefit of a commute allowance is that it presents a constant, tangible incentive and reminder to employees that there is no free parking. It has proven to be a good way of giving employees something at the same time they are losing their parking subsidy. Why don't more employers do it? At present, a commute allowance is fully taxable and parking isn't.

Our organization at this time does not advocate taxing parking benefits, we do however, encourage legislation which provides equitable treatment of commute benefits which promote ridesharing.

The best effort in this regard and one which we strongly support is H.R. 2265, sponsored by Congressman Robert Matsui. H.R. 2265 would provide a more equitable tax treatment of employer-sponsored transit and vanpool benefits. The State of California has recognized the value and effectiveness of this approach and has enacted law that exempts employer provided van and transit subsidies from taxation by the state.

This bill is also in harmony with the public/private partnership message being sent by Washington. Through it, the federal government will help provide more than a clean air mandate; it will provide a framework for change. Clean air strategies should be directed by Congress, not by the IRS, somewhat by default.

When we as a society, make parking a tax-free benefit and tax transit and vanpool benefits, we are sending a clear message. That is, that Americans are encouraged to drive alone. In a game where the outcome has been smog and gridlock, it's time to change the rules. Only you can change one of the most significant and least understood rules, the tax code.

Mr. MOODY. Thank you, very much.

Mr. Chairman.

Chairman ROSTENKOWSKI. Thank you, Mr. Moody.

Mr. Donenfeld, by the way, welcome to the panel and I am grateful that you have taken time out of your schedule to join us here and I am sure that you can enlighten us.

But Doug, do you know the IRS's rationale for denying a deduction for employer provided transit passes, even when the employer is taxed on the benefit?

Why is it not tax deductible compensation?

Mr. DONENFELD. Well, it seems to me, that the rationale makes no sense to us.

Chairman ROSTENKOWSKI. But do you know why they do not?

Mr. DONENFELD. I do not know why. I would have to defer to our experts at the Treasury for that reason. I do not know what the social or fiscal policy is behind that decision. But what even confounds us more, Mr. Chairman, is this cliff provision as we discussed is not only not encouraging employers to give a maximum benefit with respect to the transit subsidy, but it even discourages giving one which exceeds $15 at all, because if it exceeds $15 not only is it not a deductible business expense from the employer's standpoint, but it is an includable item in the taxpayer's return.

So if a well-meaning employer chose to exceed the $15 benefit, transit pass subsidy, none of it would be deductible and all of it would be included in the employee's annual return.

Chairman ROSTENKOWSKI. Would anybody else like to comment?

Ms. BAIRD. Congress set that as the de minimis level, $15.

Chairman ROSTENKOWSKI. It did?

Ms. BAIRD. Where parking is classified as a working condition benefit; they are separate classifications.

Chairman ROSTENKOWSKI. Gayle, how are employer provided parking benefits taxed under the State of Illinois law?

We have—go ahead.

Mr. FRANZEN. I am not sure, Mr. Chairman.

I am not sure that they are taxed in Illinois.

Mr. DONENFELD. Well, if Illinois law picks up the Federal tax base, to the extent that it is treated in the Federal Income Tax Code, it is treated the same in Illinois. We treat that as the base, with some modifications but that would not be one of them.

Chairman ROSTENKOWSKI. There are allegations of gasoline tax evasion in certain areas of the country. Do you have any information as to whether this is a problem in the Chicago area, either one of you?

Mr. FRANZEN. Not that I am aware of, no.

Mr. DONENFELD. Not that I am aware of, no.

Chairman ROSTENKOWSKI. Thank you.

Mr. Moody.

Mr. MOODY. Ms. Baird, you are from an area that is often cited as the area that would be most resistent to increasing gasoline taxes, the southern California area where people are more dependent on the automobile than probably almost anywhere else in urban America.

If we used a modest increase in the gasoline tax to provide incentives in the face of falling gasoline prices, to pry the right incentive

for the economization of fuel and therefore, pollution. How would you respond to a gasoline tax that had that as one of the purposes, maybe providing more for infrastructure? What is your reaction to that as someone who lives in that part of the country?

Ms. BAIRD. Well, it is not novel because LA county is promoting another half-a-cent sales tax and the State of California has on the ballot in June a gas tax increase up to 9 cents, so that it is being tackled and I think at the local level the response is mixed.

Our studies show that people are willing to pay another few cents in gas tax, I think that 3.5 was the average they were willing to go. The State proposal is in jeopardy because it goes to 9 percent. I would like to point out that the approach toward having a commute allowance is really quite revenue neutral.

Because you are providing them instead of the parking place, the allowance to either buy the parking place or to buy the ride sharing option and UMTA has done a study that was released in March 1989 that suggest a revenue source might be from changing the depreciation scale on building parking and that is just another one that might be considered further.

Mr. MOODY. Can you provide that for us before you leave?

Ms. BAIRD. Yes, sir.

Mr. MOODY. You think that the public in southern California is willing to pay some increase in additional gas tax, tied to a pollution reduction or for infrastructure or for some other reason?

How was it presented in your——

Ms. BAIRD. It was presented as both; infrastructure was the emphasis because it was coming through the transportation committee of the State legislature. And air quality is something that has been so linked to transportation in southern California that I think the average person intertwines them.

Mr. MOODY. California has a sales tax on gasoline does it not?

Ms. BAIRD. We have a sales tax——

Mr. MOODY. I mean that applies to gasoline?

Ms. BAIRD. Transportation.

Mr. MOODY. Well in most States, for example, my own, there is no sales tax on top of the excise tax on gasoline but you have it on——

Ms. BAIRD. Not on gasoline. We have sales tax on everything that is purchased which goes to the transportation infrastructure.

Mr. MOODY. Including gasoline. Sales tax is on gasoline as well as everything else.

Ms. BAIRD. I am not sure.

Mr. MOODY. I do not think it is, but I am not positive. I know in most States it is exempted, there is no sales tax on gasoline. A few States have included gasoline on the base of the sales tax like anything else except food and medicine.

Anyway that was my question and if you find out, let me know.

Any other panelists have additional comments?

Mr. FRANZEN. I would just caution, if I could be so bold to caution the representatives here in that there are, as you know, there are several billions of dollars in the trust fund and I am one who says, let us first spend the money we have as opposed to use it for other purposes then are presently being used for.

And before we get too far out in front in jumping on the gasoline tax bandwagon, I would hope that we would be able to show the American people that we are, in fact, spending the money that is being left in the trust fund before transit and that is my only caution.

Mr. MOODY. Right, so that unleashing those trust funds could be part of an overall strategy?

Mr. FRANZEN. Precisely.

Mr. MOODY. It should be.

Mr. Chairman.

Chairman ROSTENKOWSKI. Ms. Baird, does California tax the value of employer provided parking subsidies?

Ms. BAIRD. No.

Chairman ROSTENKOWSKI. It does not?

Ms. BAIRD. No.

Mr. MOODY. And does California piggyback the Federal income tax system as Illinois does, so that you adopt all of the provisions that the Federals have?

Ms. BAIRD. There was conformity in 1987 and it has been reversed with respect to the ride share. We do not tax ride share incentives.

Mr. MOODY. How about New Jersey and New York, Ms. Johnson?

Ms. JOHNSON. We do not, we follow the Tax Code, the Federal Tax Code in terms of taxing employer benefits, is that your question?

Mr. MOODY. On ride sharing or any of the issues that we are discussing?

Ms. JOHNSON. Right.

Mr. MOODY. You follow the Federal Tax Code to the letter?

Ms. JOHNSON. Yes.

Mr. MOODY. Mr. McGrath.

Mr. MCGRATH. Thank you, Mr. Chairman.

And I thank the panel and particularly Ms. Johnson from the Port Authority of New York. Say hello to my brother-in-law, Jim Grissner, who also works for the port authority.

Let me see if I can get your recommendations.

You are recommending an increase in the transit cap to $60?

Ms. JOHNSON. Yes.

Mr. MCGRATH. What is the revenue estimate of the loss to the Treasury?

Ms. JOHNSON. The revenue consequences, the tax consequences of that?

Mr. MCGRATH. Yes.

Ms. JOHNSON. That has been estimated on the order of $80 million a year by the Congressional Budget Office, as I understand, but I think that we would all be fairly quick to say that we do not agree with some of the methods used to make the estimate and I would point out that it took us about three years to achieve market penetration of about a .5 percent of the employees with the current transit check that we have.

To assume that we will be able to essentially, in 1 year, be able to convert all employers to this kind of a benefit, I think is totally unrealistic.

It is my understanding that UMTA has done another set of calculations on the approximate revenue implications although I am not aware of what their bottom line is.

Mr. MCGRATH. I am assuming that there are employers out there who do pay mass transit benefits in excess of the cap and that there is an addition to employee taxable income because of this. Your other recommendation is to eliminate that quirk in the transit benefit rule that treats the employer provided transit benefit as taxable income if the monthly cap is exceeded.

And I am just wondering, assuming that people do this, what the revenue estimate for loss of Treasury revenue would be under those conditions?

Ms. JOHNSON. For eliminating the cliff?

Mr. MCGRATH. Right.

Ms. JOHNSON. No, I do not, I am not aware of that.

Mr. DONENFELD. In my testimony I indicated that I think it comes from your figures, that is about, eliminating the cliff alone, is about a $7 million revenue loss.

Mr. MCGRATH. That is $7 million per year?

Ms. JOHNSON. That includes van pools.

Mr. MCGRATH. I am sorry?

Ms. JOHNSON. That includes van pools, also.

Mr. MCGRATH. So we are talking in the neighborhood of $87 million a year to——

Ms. JOHNSON. $7 million.

Mr. MCGRATH. I do not know if you were here for my questioning of Jim McDermott, in the prior panel, when I suggested that $60 would be a minuscule amount to satisfy the needs of the people in my area.

Commuting from Valley Stream to Penn Station or Flatbush Avenue costs in the neighborhood of a $125 a month and then $2.30 a day—for 20 days that is probably another $50-odd a month. I am just wondering if whether or not $60 is sufficient to get the job done? I wonder if any of you could comment on that?

Ms. JOHNSON. As I indicated in my testimony, the average in our region for a commuter is about $120; $60 is about half of that, but for the Nation as a whole, $60 is more representative of their transit costs. Nevertheless, $60 for many people in that region, including those in Valley Stream, is a significant amount every month.

Mr. MCGRATH. Oh, I'm sure it is, but I'm just wondering whether or not there is a great enough incentive—under the present rules—to change the pattern from driving in, to taking the Long Island.

Ms. JOHNSON. What we know from our surveys is that for about one-quarter of the people currently using mass transit, and making the long distance commutes in our region; some of them from Long Island; if offered a significant incentive, certainly one more than $15, they would consider switching.

Mr. FRANZEN. Let me say for the Chicago area that we would gladly welcome anything greater than $60.

Mr. DONENFELD. Speaking for the Chicago Transit Authority, that is basically the price of our full monthly pass—$60 to ride the system, systemwide, any day of the week, just increased to $60, so that certainly would take care of our 1,900,000 riders.

Mr. MCGRATH. I thank the panel for your testimony.

Chairman ROSTENKOWSKI. Ms. Johnson, has the Authority considered increasing the tolls it charges drivers entering New York by bridge or tunnel to create more of a disincentive to drive, and thereby providing enough revenues for your system to continue, as opposed to coming here, and asking for revenues from us? Has the authority ever considered that?

Ms. JOHNSON. Strange that you should ask that question. As a matter of fact, we have made a proposal to both of the Governors of the two States to increase our tolls this year by a $1, and we have alerted the region at large that we will have to make periodic increases of dollar increments, just to maintain the system we have, not simply to deter motorists.

Mr. MCGRATH. Will the gentleman yield on that one? [Laughter.] This is only with respect to port authority?

Ms. JOHNSON. That is correct.

Mr. MCGRATH. And, of course, the Triborough Bridge Authority would follow right up, wouldn't it?

Ms. JOHNSON. I think the Triborough has preceded us already.

Mr. MCGRATH. What effect might the nonattainment in New York City and outlying areas have on the final outcome? What might be the final outcome of the proposal to raise those tolls to $10?

Ms. JOHNSON. It is my understanding that the city of New York has launched an unprecedented study of about $3,000,000, to evaluate the effects of a number of proposals, one of them being some form of pricing coming into Manhattan. I honestly don't know what the outcome of that would be. We have certainly argued in that forum, as well as this forum, about the inequity between the way we are treating parking, and the way we are allowing an employer to support mass transit in the region. We think it is a fundamental issue that is of great concern for our region, as well as the Nation at large.

Mr. MCGRATH. I thank the chairman for yielding to me.

Chairman ROSTENKOWSKI. May I just ask a general question, though? What would you say the revenue loss is because of a public apprehension to get on public transportation for fear of being abused, or for some criminal activity? Could you give me an estimate? I know that, on a personal basis, I used to take the surface, then subway transportation out to Midway Airport, and sometimes I'd land there, 25 or 30 years ago, at 11, and then take a cab over to Western Electric, and then get on the surface transportation, which went down the Eisenhower and the Mark Avenue subway, and back over to my home. I'd do that around 10 at night. That was 25 or 30 years ago; I wouldn't do that with a Sherman Tank today. [Laughter.]

Now, given just what you feel the loss is, you know, you see these transit trains running up to Kennedy, and out to O'Hare Airport practically empty, and yet you are sitting there, and coming in from the airport at 5 in the evening, I'll watch 30 cars go by me. This is rapid transit, and yet everybody is locked on the Kennedy, and it takes them 1 hour to 1½ hours to get into the city. There are so many things that happen, and the height of the rush hour—let's say 4 to 8:30, a lot of traffic—but boy, after 8:30, you couldn't

pull people down into that subway area for fear that they are going to be assaulted. What do you think you lose by that?

Mr. FRANZEN. Mr. Chairman, I'm not sure any of us sitting here can give you a reasonable guesstimate as to what we lose, but there is no question that we lose significant revenues for that very reason, but you also have to take under consideration that the three of us sitting right here on this side of the table are dealing with the two oldest transit systems in the world. Our system was built in downtown Chicago around the Columbian Exposition in the late 1800's, and a lot of what we deal with in Chicago; the Chicago Transit Authority, by the way, is one of the, if not the safest, system in the country, per capita. It is a very, very safe system; however, the perception is exactly the opposite, because we are dealing with very old, old facilities, and that was one of the major selling points that we used last spring in Springfield to put forth our billion-dollar capital program to begin addressing the perception of the problem which is, in fact, the age of the facilities. In some instances, we showed slides around the area where CTA light stations buy literally naked bulbs in dark corridors, because simply it has been a matter of dollars.

Chairman ROSTENKOWSKI. You're not going to protect the citizens with just lights, Mr. Franzen.

Mr. FRANZEN. No, but the point is that it is a safe system, but the perception is that it is not, and that goes to the perception.

Chairman ROSTENKOWSKI. Well, you know, take a young airline hostess that gets off of an airplane at 10 at night, and she lives down at Shaumberg Village, which is available by public transportation; there is no way she is going to get in the subway train and go down Milwaukee Avenue in that subway. There is no way at 10 or 11 at night. I mean, she is going to take her car out there, and she is going to jump in her car, and she is going to drive home. And I agree that there is a great deal of perception, but I'll tell you something, if I was that kid's father, I'd go out there and pick her up, as opposed to having her do that.

Now, I don't blame the Chicago Police Department, or the Chicago Transit Authority. I blame our society. We tolerate rascals and vandals. We just sit there and say, "Oh, it is none of my business." That is a terrible situation, but, you know, I think you would see a lot more people riding public transportation if they felt that they were comfortable on it.

Mr. FRANZEN. No question.

Chairman ROSTENKOWSKI. It just irritates the life out of me to think that we have to have a policeman in every car to protect the public.

Mr. DONENFELD. There is no question, Mr. Chairman, that we at the CTA have a public perception problem, and the last couple of years have been particularly difficult years for us because of what the people perceive as happening with respect to crime in our system when, in fact, we are looking at statistics, and having worked effectively with the Chicago Police Department, they are going down, but that is one way the perception is something we have to constantly fight, educating the public to understand that the system is safe.

What we are talking about here, I think, is one part of the armament that we are putting together to increase ridership on these aging facilities. We are talking here, though, about a subsidy that will bring back the commuter, which is probably the safest time to be riding the system, whom we've lost because there hasn't been an attractive enough package, from a tax incentive standpoint, for them to ride the system. When we do that, we will make a healthier system, bring more dollars into the system, and hopefully continue to provide the security that we need, the enhanced security that we need, to fight the great problem you are talking about.

Ms. BAIRD. I would echo that, because in southern California, we don't even have the ridership during the peak hours that the other systems do, and the thing that is most attractive to me, as a woman traveling mass transit, is the fact that there are other working people there, and it is not just people who are not employed that are sitting on the bus day after day.

Another approach in southern California is the proliferation of the van pool. This appeals to a different group of people, yet it is still effective in reducing the number of cars on the road.

And if I can diverge a little bit on the issue of tax simplification, the way the tax structure is now, right now, the employer, if they choose to subsidize the van pool benefit, has to figure out exactly how much of a value that is to each 1 of the 17,000 van poolers in southern California, so that they can report it, and I think that is a major problem in encouraging employers to underwrite the fairly expensive costs of van pooling, and that is a whole different market that is not being served by transit, yet could be encouraged with some tax simplification.

Chairman ROSTENKOWSKI. Thank you, Mr. Chairman.

Mr. MOODY. Thank you all very much.

Chairman ROSTENKOWSKI. Well, the next panel is the Aluminum Association, Inc., represented by David N. Parker, president; Coalition for Acid Rain Equity and Allegheny Power System, represented by Stan Garnett; the Energy Conservation Coalition, represented by Edwin Rothschild; and American International Automobile Association Dealers Association, represented by Walter Huizenga. Please join us.

[Pause.]

Chairman ROSTENKOWSKI. OK, why don't we start with Mr. Parker.

STATEMENT OF DAVID N. PARKER, PRESIDENT, ALUMINUM ASSOCIATION, INC.

Mr. PARKER. Thank you, Mr. Chairman. I am David Parker, president of the Aluminum Association, and I am here today to testify on the cost implications of acid rain control taxes, and the use of the Federal tax system to encourage recycling. It is our belief that the Federal tax system has a very limited role in those areas of environmental control which require large capital investments, and substantial operation and maintenance costs.

On recycling, we believe that the use of the Federal tax system to encourage recycling, or to discourage the use of virgin materials,

could severely damage the highly successful aluminum industry program to recycle used beverage cans.

In 1989, Americans recycled 60.8 percent of the aluminum beverage cans that we produced. This increase is more than a 10-percent increase over the 1988 recycling rate of 54 percent. The aluminum industry is doing its part in the national recycling effort. This 1989 recycling rate means that 49 billion cans were recycled out of the 81 billion manufactured. The success is due to three factors: Americans understand the need to recycle, our companies are working harder and spending more money to encourage recycling, and, as you know, the goal of the aluminum industry is to recycle 100 percent of the aluminum beverage cans that it produces.

The public also understands that there is great value in the aluminum product itself. We oppose the imposition of taxes for the purpose of facilitating recycling, knowing that every material has its own distinct market and technical characteristics, and believe that every material should take care of itself in that regard.

We are actively promoting the increased recycling of aluminum on all fronts, and strongly believe that the free market efforts accompanied by national programs to educate the public on the value and importance of recycling is a superior approach over any burdensome and costly tax.

Regarding acid rain, sulfur dioxide and nitrogen oxide emission taxes would increase the cost burden of all electric users at the very time their electric bills will be rising to meet the cost for installing and operating acid rain controls currently being considered in the Congress.

A statement on the impact of acid rain taxes on U.S. aluminum producers was submitted by the association to your committee for the record at its hearings on sulfur and nitrogen emissions taxes in 1987, as well as a copy of the testimony that I presented before the Senate Subcommittee on Environmental Protection in October of 1989.

The key points we have made in our acid rain testimony were, one, controls will substantially increase the cost of electricity in the production of aluminum as high as 15 percent at some reduction facilities; two, electricity is essential to the process by which aluminum is made, amounting to approximately one-third of the total cost of the production of aluminum on a per pound basis; and three, the increased cost will affect the international competitiveness of the aluminum industry currently structured in America.

I should note for the record that currently it costs 67 cents to produce a pound of aluminum in the United States; 63 cents in Europe; and 45 cents in Venezuela; therefore, the cost factors are such where we need to ensure that the industry does not absorb any more unburdensome costs.

We believe that any control program should allow the electric generating industry the widest latitude to choose its method of implementing controls, and that controls or taxes should not cover industrial processes. In the case of electric generation, the cost of those controls would be passed on to the generator's customers, and this would include any tax paid by the generators related to the cost of producing electricity.

I would be delighted to handle any more questions the committee may have. Thank you very much.

[The statement of Mr. Parker follows:]

TESTIMONY OF DAVID N. PARKER
ALUMINUM ASSOCIATION, INC.

Mr. Chairman and members of the Committee:

I am David Parker, President of the Aluminum Association, Inc. I am here today to testify on the cost of acid rain control taxes and the use of the Federal tax system to encourage recycling.

The 87 member companies of the Aluminum Association are domestic producers of primary and secondary aluminum ingot, aluminum mill products and castings. Mill products include sheet and plate; foil; extrusions; forgings and impact extrusions; electrical conductor; and wire, rod and bar. The Association's membership also includes producers of master alloy and additives. Aluminum Association member companies operate 300 plants in 40 states.

The major markets for aluminum are containers and packaging, transportation and building and construction.

The Association is a primary source of statistics, standards and economic and technical information on aluminum and the aluminum industry in the United States.

I appreciate the opportunity to participate in the hearings of the Committee on Ways and Means on long-term strategies on the environment and the use of the Federal tax system to address environmental issues. It is our belief that the Federal tax system has a very limited role in those areas of environmental control which require large capital investments and substantial operation and maintenance costs.

Acid rain and recycling are complex subjects which fall under varying degrees of scrutiny by the Congress and the Executive Branch. Attempting to address either subject on a conceptual basis without the discipline of specific proposals is extremely difficult.

Sulfur dioxide and nitrogen oxide emissions taxes would increase the cost burden on all electricity users at the very time their electricity would be rising to meet the costs for installing and operating acid rain controls. A statement on the impact of acid rain taxes on U.S. aluminum producers was submitted by the Association to your Committee for the record of its hearings on the sulfur and nitrogen emission tax act of 1987.

We believe that any control program should allow the electric generating industry the widest latitude to choose its method of implementing controls and that controls or taxes should not cover industrial processes. In the case of electricity generation, the costs of those controls would be passed on to the generator's customers and this would include any taxes paid by the generator related to the cost of producing electricity.

On recycling, we believe that use of the Federal tax system to encourage recycling or to discourage the use of "virgin" materials could severely damage the highly successful aluminum industry program to recycle used beverage cans, as well as distort the economics of other aluminum industry recycling business. There are approximately 10,000 aluminum can recycling locations operating in the U.S. Millions of individuals participate in the can collection and recycling effort. In 1989, American consumers earned an estimated $900 million by recycling aluminum cans.

We oppose the imposition of taxes for the purpose of facilitating recycling. Each material has its own distinct market and technical characteristics. We are actively promoting the increased recycling of aluminum. We strongly believe that private free-market efforts accompanied by national programs to educate the public on the value and importance of recycling is a superior approach.

We have provided the Committee with copies of the testimony on acid rain that I presented on behalf of the aluminum industry at a recent hearing of the Senate Committee on Environment and Public Works, and of the testimony on recycling offered by William F. Hill on behalf of the Association before the

Subcommittee on Transportation and Hazardous Materials of the House Energy and Commerce Committee. These statements set forth our analysis of the unique characteristics of the aluminum industry and how they relate to the issues before you.

The key points in the acid rain testimony are:

1) Controls will substantially increase the cost of electricity.
2) Electricity is essential to the process by which aluminum is made.
3) Those increased costs will affect the international competitiveness of U.S. primary aluminum producers.

The key points in the recycling testimony are:

1) The aluminum industry relies on scrap as an essential part of its metal supply.
2) The industry has developed highly sophisticated market-oriented regimes for recovering scrap.
3) We are concerned that inappropriate government action will seriously damage this proven and highly successful process.

If you have any questions I will be glad to answer them now or for the record. Representatives of the aluminum industry are prepared to work with Committee members and staff on these subjects at your request.

Thank you for the opportunity to appear before you at this important hearing.

Attachment 1: Testimony of David N. Parker on Acid Rain, Committee on Environment & Public Works, U.S. Senate, October 4, 1989

Attachment 2: Testimony of William F. Hill on Recycling, Subcommittee on Transportation and Hazardous Materials, Committee on Energy and Commerce, U.S. House of Representatives, July 12, 1989

[THE ATTACHMENTS WILL BE MAINTAINED IN THE COMMITTEE FILES.]

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Mr. MOODY [presiding]. Thank you very much. I was to call Mr. Garnett. I understand he is not here yet, so we will go ahead to Mr. Ed Rothschild, energy/environment policy director of Energy Conservation Coalition.

STATEMENT OF EDWIN S. ROTHSCHILD, ENERGY/ENVIRONMENT POLICY DIRECTOR, CITIZEN ACTION, ON BEHALF OF ENERGY CONSERVATION COALITION

Mr. ROTHSCHILD. Mr. Chairman, my name is Ed Rothschild. I am the energy/environment policy director of Citizen Action, and I am appearing this morning on behalf of the Energy Conservation Coalition. I would like to summarize my comments, and ask that the full statement be included in the record.

Mr. Chairman, the Energy Conservation Coalition supports several tax policies that we believe will enhance environmental quality, will stimulate investment in energy-efficient technology, and will reduce our increasingly costly oil import bill.

Clearly, we must reduce our consumption of fossil fuel in order to reduce environmental pollutants, such as carbon dioxide. By implementing policies that promote energy efficiency, we can not only reduce pollution, but improve our economy, as well. It is very obvious that energy efficiency works. The Department of Energy cites that between 1972 and 1986, we saved about 171 quadrillion Btu's, or close to 1 trillion dollars' worth of energy.

Of course, there is equivalent savings in the emissions of carbon monoxide and other pollutants. We are advocating, basically, three policies this morning that all members of the Energy Conservation Coalition agree to. No. 1, the gas guzzler tax, and a gas sipper rebate. Clearly, the gas guzzler tax, in concert with the fuel economy standards, has helped increase automobile fuel efficiency. One of the disturbing things is that, due to the automobile industry's resistance and efforts to subvert these policies, we are beginning to move backward. Our automobile industry may be leading us forward into the past with their kinds of efforts.

There is a recent EPA study that just came out that shows that, based upon the automobile industry's own projections for the model year 1990, this will be the second year in a row that we have declines in fuel economy. This is very, very serious, and it is particularly true of foreign made automobiles. One of the worst is the Isuzu model, with a change from 1987 to 1990 of a 19-percent, basically, decline in fuel efficiency. So we ought not to pay attention to Joe Isuzu when he is out there selling his cars. At least he's not selling cars like trucks.

One of our concerns here is that the automobile industry has shifted its production, shifted consumers' buying habits from buying station wagons to buying light trucks or vans. And, of course, that population of vehicles has increased. The fuel efficiency standards that apply to light trucks and vans are much lower; similarly, we think, that to encourage consumption of more fuel efficient cars, the gas guzzler tax ought to be applied to light trucks as well as to automobiles, as well as being increased in tandem with the fuel efficiency standards.

We also support, and I think it is very clear from the previous panel, the change that the previous panel argued for in terms the disparity between providing no taxes on parking versus penalties, essentially, if you are a commuter, for using mass transit. So we strongly advocate a change in that policy.

Finally, Mr. Chairman, with respect to utilities, we think that promoting investments in energy efficient technologies by consumers is very, very important. Consumers should not be penalized if a utility supports that through rebates. Under current law, a change has taken place such that now consumers will be taxed for any rebates that they receive for energy efficiency. We urge that that be changed, and that support be given to Congresswoman Kennelly's legislation, which I think, is being introduced to correct that problem.

I would be happy to answer any questions.

Mr. MOODY. Congresswoman Kennelly's legislation to do what?

Mr. ROTHSCHILD. That would correct the problem that now, when utilities provide rebates to consumers for energy efficiency investments, imposes a tax liability for those kinds of rebates.

Mr. MOODY. Thank you.

Mr. Huizenga. I'm not sure I'm pronouncing it right.

Mr. HUIZENGA. No, that's right.

Mr. MOODY. Thank you.

Chairman ROSTENKOWSKI. You wish you had the money Huizenga had. [Laughter.]

[The statement of Mr. Rothschild follows:]

Statement
of
Edwin S. Rothschild
Energy/Environment Policy Director
Citizen Action
on behalf of the
Energy Conservation Coalition
before the
Committee on Ways and Means
U.S. House of Representatives
on
Long-Term Strategy on the Environment

March 7, 1990

Mr. Chairman and members of the Committee. Thank you for the opportunity to testify today on long-term strategy issues relating to the environment. My testimony today not only represents the views of my own organization, Citizen Action, but the views of the Energy Conservation Coalition.

There is no question that U.S. tax policy plays a critical role in determining what types of energy are produced, how energy is consumed and how much pollution is emitted into the air we breathe, the water we drink and the food we eat. Tax incentives or tax credits for oil or coal extraction, for example, help spur that kind of activity. Removing tax credits for investments in solar energy, another example, have helped to slow down the development of these resources. In short, Mr. Chairman, the way in which taxes are levied or not levied can help promote or hinder economic activities that are either harmful or beneficial to the environment.

The Energy Conservation Coalition supports several tax policies that we believe will enhance environmental quality, will stimulate investment in energy efficient technology, and will reduce our increasingly costly oil import bill. Clearly, we must reduce our consumption of fossil fuels in order to reduce environmental pollutants such as carbon dioxide. By implementing policies that promote energy efficiency, we can not only reduce pollution, but improve our economy as well.

Using our tax system to promote energy efficiency is critical to achieving many of our environmental goals. In fact, energy efficiency is at the heart of most of the critical environmental debates of our time -- over the protection of our fragile coastal and wilderness resources, such as the Arctic National Wildlife Refuge, the attainment of healthful air quality in our major cities, and over the very future of our global climate system.

Energy efficiency works. According to the Department of Energy, energy savings between 1972 and 1986 totaled 171 quadrillion Btus that amounted to nearly $1 trillion. Because of energy efficiency improvements in the economy, the United States in 1986 used 32 quads less energy than it otherwise would have and spent $179 billion less than it otherwise would have. These savings also reduced U.S. carbon dioxide emissions by nearly 1500 million tons.

Despite this remarkable success story, we are now witnessing a reversal in energy consumption. Oil demand is growing as an increasing number of vehicles are being driven more and more miles. *Figure 1* shows that gasoline consumption jumped nearly 12% between 1980 and 1988. *Figure 2* shows a comparable increase in carbon dioxide emissions. The growth in new car fuel efficiency, which increased from 14.2 mpg in 1974 to 28.2 mpg in 1986 has now, because of public policy decisions, reached a plateau.The growth in new car fuel efficiency, which increased from 14.2 mpg in 1974 to 28.2 mpg in 1986 has now, because of public policy decisions, reached a plateau. The growth in gasoline consumption is related, in part, to automobile manufacturers' decisions to increase production, sales and marketing of mini-vans, small pick-up trucks and the like (all classified as light trucks) which take advantage of lower fuel efficiency requirements. With total vehicle miles traveled up by nearly 29 percent between 1980 and 1988 and 16% more cars on America's roads in 1988 compared to 1980, energy efficiency improvements have been overwhelmed (See *Table 1 and Figure 3*).

The Gas Guzzler Tax

Without fuel efficiency gains in the transportation sector, our economy and environment would be in much worse shape. Part of the reason for more fuel efficient automobiles on American roads today is the gas guzzler tax. This tax, which took effect in 1981, has provided economic incentives to automobile manufacturers to improve the fuel economy of their automobiles.

Used in conjunction the Corporate Average Fuel Economy (CAFE) levels adopted by Congress, the gas guzzler tax can discourage the production and sale of inefficient vehicles. At present, only cars that fall below 22.5 mpg are subject to the tax. Whatever level future fuel economy standards are set at, the gas guzzler tax threshold should be increased by the same percentage, so that a strong mechanism exists for pushing up the bottom end of the fleet. Even if fuel economy standards are not raised, an increase in the gas guzzler tax threshold would still be an important and effective policy tool for raising fuel economy, reducing oil consumption and improving air quality.

In our view the gas guzzler tax has long been overlooked as an effective policy tool for improving fuel economy and air quality. However, there is strong evidence that the gas guzzler tax played an important role in improving fuel economy, especially between 1983 and 1986.

Figure 4 shows a plot of the average fuel economy of cars whose average fuel economy was below 20 mpg in 1980, the year before the gas guzzler tax took effect. Also plotted on the graph are the gas guzzler tax threshold and the real price of gasoline for the years 1980 through 1987. As can be seen, the fuel economy of low-mpg cars rose after the guzzler tax threshold was raised high enough to pose a tax threat. Automobile manufacturers clearly decided it was preferable to improve fuel economy than to even pay a small gas guzzler tax. This improvement in fuel economy occurred during a period of continually declining gasoline prices. As can be seen in *Figure 2*, this improvement in low-mpg cars occurred when the fuel economy of the rest of the new car fleet hardly improved, suggesting that the gas guzzler tax played a major role in post-1983 fuel economy improvements.

From a consumer point of view the gas guzzler tax, as opposed to a gasoline tax, has a number of economically and socially desirable features. Since the tax only applies to new cars, low-income consumers will, for the most part, not be affected by the tax. And since the tax is a large penalty imposed at the point of purchase, instead of very small sums stretched out over many years (like the gasoline tax), it will likely have a very strong effect on the willingness of car buyers to seek more energy efficient cars.

To take this policy a step further, we urge Congress to consider using the revenues generated by the gas guzzler tax to provide rebates to purchasers of very efficient cars. The benefits of such a "gas sipper" rebate are obvious. It would encourage demand for high fuel economy cars.

We also urge that a gas guzzler tax be established for light trucks and vans, and like passenger cars, the guzzler tax threshold should be increased by the same percentage as the light truck fuel economy standard. Extension of the guzzler tax to light trucks and vans is vital, because automobile manufacturers have sought to evade automobile fuel efficiency standards by eliminating the family station wagon and replacing it with the family van. Vans fall under the category of light trucks, which on average are 25 percent less efficient than automobiles.

In addition to improving the gas guzzler tax itself, Congress ought to close a major loophole in the Environmental Protection Agency's regulations that allows automobile manufacturers to legally evade paying hundreds of millions of dollars in gas guzzler taxes. Under current EPA regulations, automakers can certify the fuel efficiency of a large number of vehicles using the test results from a small unrepresentative subgroup, which is almost always more efficient than the cars being certified. In 1986, for example, the Ford Motor Company alone avoided up to $200 million in gas guzzler taxes by certifying that the fuel

efficiency of its large-size, gas guzzling "Crown Victoria" was equivalent to the company's more fuel-efficient mid-size "Thunderbird." More recently, the EPA found that the Chrysler Corporation used inflated sales estimates for the most efficient versions of its 1988 "Newport," "Fifth Avenue," "Diplomat," and "Grand Fury" to avoid $34 million in federal tax liability.

Under EPA labeling regulations that allow automakers to combine a number of product lines together for the purpose of establishing fuel efficiency, the Treasury is denied needed tax revenue and consumers are misled about the fuel efficiency of many automobiles offered for sale. Congress could easily close this loophole by requiring that manufacturers develop specific labels for every model or vehicle configuration they produce below the CAFE standard applicable in a given model year. This action is needed now in order to prevent automakers from avoiding the tax liability associated with an increased gas guzzler threshold.

Promoting Transportation Efficiency

In addition to providing tax penalties for inefficient automobiles and tax rebates for efficient ones, Congress should make it easier for employers to encourage their employees to use vanpools or public transportation. Unfortunately, current law not only discourages the use of these more efficient forms transportation by taxing employer-provided vanpool discounts, employee transit allowances and transit passes in excess of $15 a month, but encourages inefficient, polluting forms of transportation by considering the provision of free parking as a tax-free fringe benefit. The *Journal of the American Planning Association* reports that recent studies show that 75% of all commuters in the U.S. park in free employer-provided, off-street parking spaces. With today's environmental and energy problems, Congress needs to pay serious attention to the disproportionate incentives that encourage inefficient and polluting automobile traffic versus those for more efficient and less polluting vanpooling and mass transit.

As most of us know, the major urban areas of this nation, from the West Coast to the East Coast are facing highway gridlock. The Federal Highway Administration has reported that just from 1983 to 1985, congestion in urban areas increased 20 percent. As Americans have moved to the suburbs, traffic congestion has followed--up 60% on outlying roads and doubling on rural thoroughfares. Around here one need only listen to early morning or late afternoon traffic reports in the Washington DC metropolitan area, for example, to understand how easily an accident on the inner loop can tie up traffic for hours or how the crush of commuters sitting alone in their cars on Shirley Highway is such a monumental waste of time, energy and resources. We all know that stalled or slow moving highway traffic is much more wasteful of energy and much more polluting of our air than traffic that moves along at a brisk pace. The Federal Highway Administration estimates that congestion wastes 1.4 billion gallons of fuel annually and projects an increase to 7.3 billion gallons by the year 2005. This wasted fuel also produces 14 million tons of CO_2 and increases the emissions of hydrocarbons and carbon monoxide as average speeds fall below 40 mph and as cars move in stop-and-go patterns or sit in traffic with the engine idling. Traffic congestion does more than just waste fuel and increase pollution. It also wastes money. *Automotive News* has reported that traffic congestion costs the U.S. economy $73 billion a year in wasted person-hours.

Congress can ameliorate some of this problem by changing the tax policy that was adopted in 1984. Employees should be encouraged to use the most efficient and least polluting means of transportation available. At a minimum we urge that a transportation allowance be treated just like the provision of free parking, namely a tax-free fringe benefit. The transit pass fringe benefit should be increased from the absurdly low level of $15 a month to the equivalent of the monthly cost of commuting via public transit. Additionally, Congress should eliminate the taxes now levied on employer-provided vanpool discounts.

In short, it makes for bad energy, economic and environmental policy to allow employers to provide employees a tax-free benefit of $200-$400 a month in major metropolitan areas for free parking, but only $15 a month for those who use public transportation to commute to work. But what if the employer increased the allotment for public transportation. Under current law, anything above $15 a month makes the entire amount taxable. This law is unfair, short-sighted and counter-productive.

Enhancing Utility Energy Efficiency Investments

We would also like to note that a February 1989 IRS tax interpretation has drawn some attention to the fact that there is now a tax liability for consumers who receive rebates from utilities for the purchase of energy-efficient measures. Even though we are convinced that the IRS interpretation is incorrect on the merits, the fact is that the provision of law which allows utilities to provide rebates for residential energy conservation investments expired last July. Congress needs to re-enact this important provision and expand it to include commercial and industrial consumers as well.

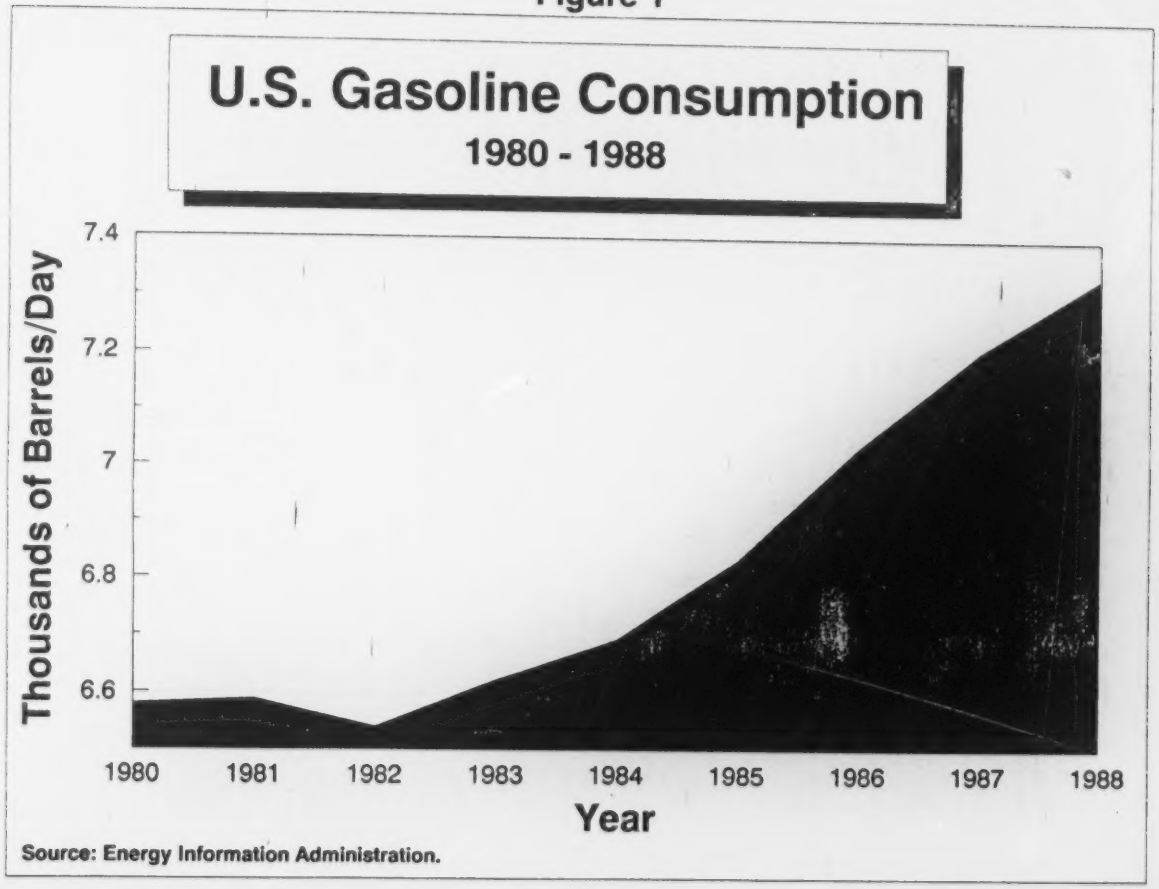
Electric utilities in many states have begun to see the economic wisdom of promoting investments in energy efficiency and demand side management. One way for utilities to develop and expand these programs, which avoid the construction of new, expensive, polluting power plants (which can avail themselves of the investment tax credit), is to enable consumers to make investments in energy efficiency. By taxing such rebate programs, the federal government is hindering its own efforts to promote energy savings and a cleaner environment. If consumers cannot obtain tax credits for energy efficiency investments, at a minimum they should be penalized for them. We are pleased that Rep. Barbara Kennelly and other members of the House are introducing legislation which will correct the problem. We support this effort and urge the Committee to act favorably on it as soon as possible.

Promoting investment in energy efficiency should permeate every facet of national energy, environment, tax, budget and foreign policy. As a nation we must move rapidly to the use of the most energy efficient technologies available. Helping consumers make wise decisions in the marketplace is critical, because the average consumer does not take into consideration life-cycle costs when purchasing automobiles, homes, appliances, and other energy consuming devices. Tax policy is central to many economic decisions. Through the tax code the government can promote energy waste or energy efficiency; fossil fuels or renewable fuels or both. At a minimum, the tax code ought not to penalize energy efficiency or renewable fuels. For the economic and environmental future of nation, we need tax policies that help promote economic decisions that reduce oil imports, pollution and inefficiency.

The above statement is endorsed by the following Energy Conservation Coalition member organizations:

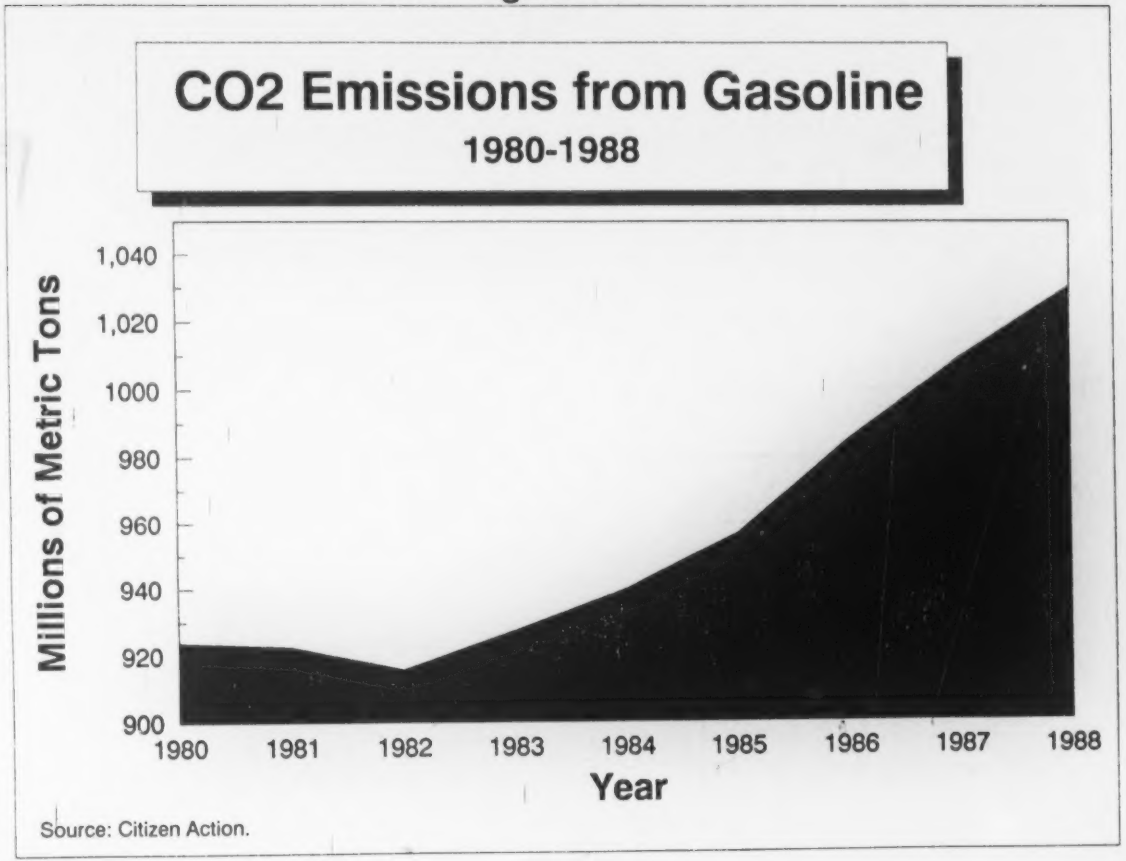
Citizen/Labor Energy Coalition
Consumer Federation of America
Environmental Action
Friends of the Earth/Environmental Policy Institute
National Audubon Society
National Wildlife Federation
Natural Resources Defense Council
Public Citizen
Renew America Project
Sierra Club
Union of Concerned Scientists
United States Public Interest Research Group

Figure 1



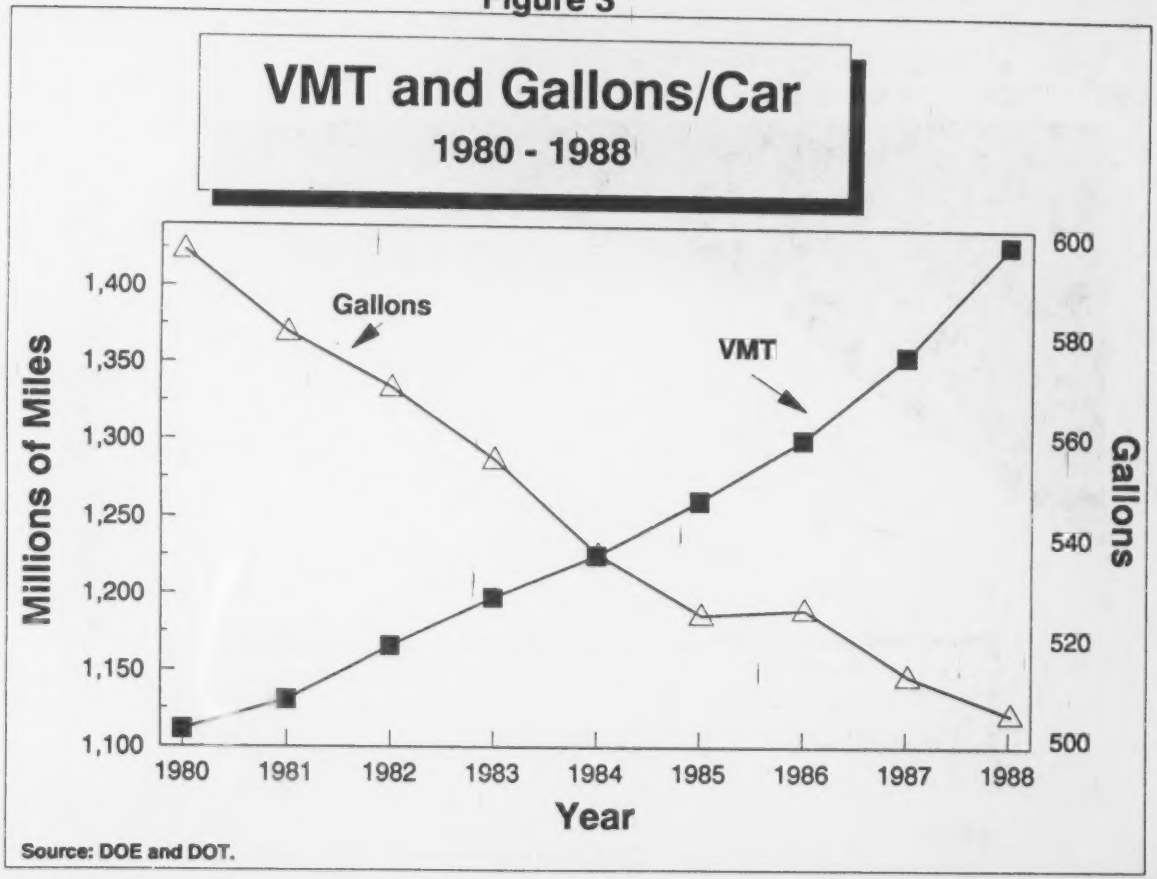
Source: Energy Information Administration.

Figure 2



Source: Citizen Action.

Figure 3



Source: DOE and DOT.

Figure 4

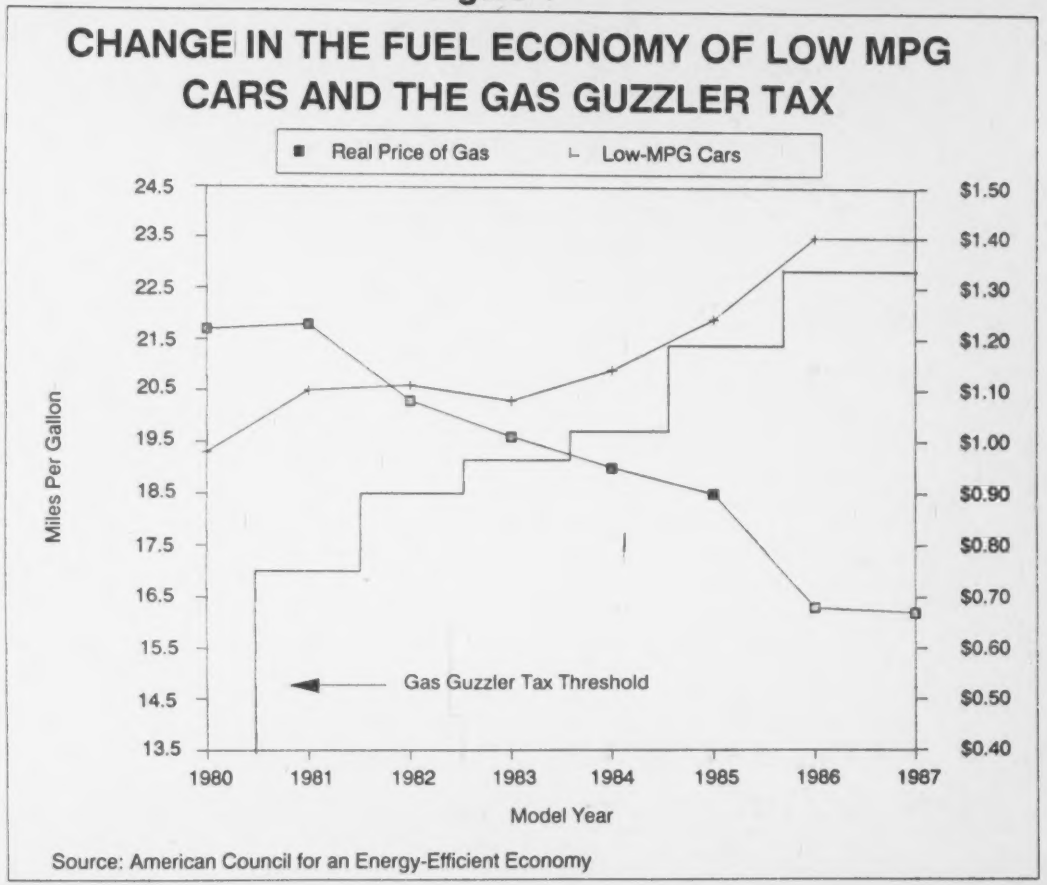
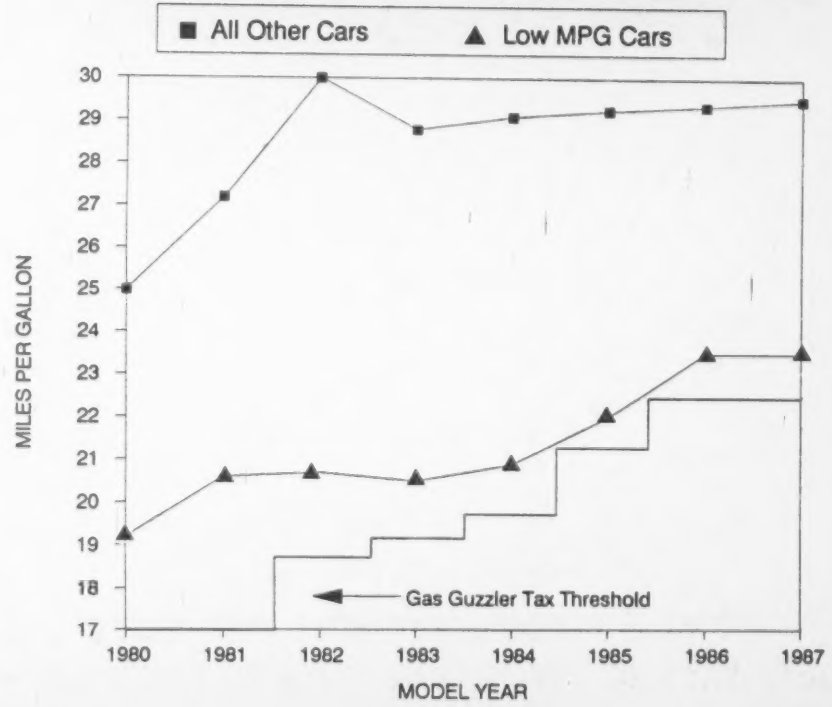

CHANGE IN THE FUEL ECONOMY OF LOW MPG CARS AND THE GAS GUZZLER TAX
Real Price of Gas
Low-MPG Cars
Miles Per Gallon
24.5
23.5
22.5
21.5
20.5
19.5
18.5
17.5
16.5
15.5
14.5
13.5
$1.50
$1.40
$1.30
$1.20
$1.10
$1.00
$0.90
$0.80
$0.70
$0.60
$0.50
$0.40
Gas Guzzler Tax Threshold
1980
1981
1982
1983
1984
1985
1986
1987
Model Year
Source: American Council for an Energy-Efficient Economy

Figure 5

CHANGE IN THE FUEL ECONOMY OF LOW MPG CARS AND THE GAS GUZZLER TAX



Source: American Council for an Energy-Efficient Economy

Table 1

AUTOMOBILES, FUEL EFFICIENCY AND GASOLINE CONSUMPTION 1980 - 1988

YEAR	NO. OF REG. CARS (Millions)	AVERAGE MILES TRAVELED	VMT (Millions)	AVE. FUEL CONS./CAR (Gal.)	AVERAGE MPG	TOTAL CONSUM. (000 b/d)	TOTAL CO2 (Mil.Mt)
1980	122	9,141	1,112	591.0	15.5	6,579	923.8
1981	123	9,186	1,131	576.0	15.9	6,588	922.5
1982	124	9,428	1,166	566.0	16.7	6,539	915.7
1983	126	9,475	1,198	553.0	17.1	6,622	927.3
1984	128	9,558	1,225	536.0	18.0	6,693	939.8
1985	132	9,560	1,261	525.0	18.2	6,831	956.5
1986	135	9,608	1,301	526.0	18.3	7,034	985.0
1987	137	9,878	1,356	514.0	19.2	7,206	1,009.1
1988	141	10,119	1,430	507.0	20.0	7,336	1,030.1
Percent Change	16.2%	10.7%	28.7%	-14.2%	29.0%	11.5%	11.5%

Source: U.S. Department of Energy, U.S. Department of Transportation.

STATEMENT OF WALTER HUIZENGA, PRESIDENT, AMERICAN INTERNATIONAL AUTOMOBILE DEALERS ASSOCIATION

Mr. HUIZENGA. You are quite correct. My name is Walter Huizenga, and I represent the American International Automobile Dealers Association. Unfortunately, Mr. Isuzu was unable to be with us today. We represent the 9,500 franchise new car and truck dealers that sell and service import cars that are brought into the United States or now, today, built in the United States. Our members and our industry want to take reasonable positions, and certainly every possible position necessary to correct our environmental problems, and preserve our environmental heritage.

We would be supportive of the imposition of a carbon fee to address environmental and energy security concerns. Such a fee would more effectively address all fuels that contribute to carbon source emissions, and would provide the minimum amount of market distortion, which at the same time would then reduce our dependence upon foreign oil, and would also reduce CO_2 emissions. Moreover, it would provide market incentives, rather than regulatory burdens, to reduce our nation's fuel consumption. We would urge that as the committee considers various pieces of legislation that they be mindful of the totality of the Federal regulation of our energy.

Manipulation of the marketplace to increase fuel efficiency of automobiles sold in the United States will cause tremendous market dislocation and disruption in the automobile industry for manufacturers, dealers, and consumers. The aim of Congress should be the achievement of overall environmental goals, with a minimum of market disruption and dislocation.

We would also say that global environmental issues must be resolved on a global basis. Recent focus on the so-called global warming effect has stimulated interest in reducing worldwide CO_2 emissions. Many have demanded that automobile carbon dioxide emissions be drastically reduced, in order to limit the perceived threat of global warming.

It is critical that this issue be addressed on a global basis. Total carbon dioxide emissions from automobiles account for only 16 percent of total U.S. CO_2 emissions, and only 2.5 percent of all global warming gases.

We support the work of the Bush administration in the international conference on global climate change. To effectively reduce the level of fossil fuel consumption, a global approach must be taken. As I have stated, we believe that a carbon fee is a more effective and comprehensive method by which to address global warming and energy conservation.

The current Federal policy of the combination of CAFE standards and a gas guzzler tax has been ineffective, and, at times, even counterproductive. We believe that a carbon fee is a more effective and comprehensive method by which to reduce CO_2 emissions. It is a free market solution to a fundamental market issue.

In fact, we believe that as the price of gasoline would increase as a direct result of the carbon fee, there would be a corresponding demand for fuel efficient vehicles, and a reduction in the total number of miles driven. Moreover, a carbon fee would impact the

total automotive fleet immediately. It would take several years before any changes in CAFE would impact the consumption of fuel in a meaningful way, if at all.

Finally, it may even be the case that CAFE-induced price increases on cars will encourage people to keep older, less fuel efficient, and even more polluting cars longer, and finally, a gas-guzzler tax is not an effective means of achieving fuel savings. The key to fuel conservation is the total number of miles an individual drives his or her vehicle. A carbon fee would be a more effective method to influence fuel consumption, as it forces the driver to examine his or her driving habits each and every time he or she fills up the tank, not just when the vehicle is purchased.

Instead of burdening our industry with additional regulations and taxes, we would ask that the committee consider a tax credit for the purchase of fuel efficient automobiles. This, coupled with the carbon fee, would encourage people to buy more fuel efficient products, and at the same time, drive their vehicles fewer total miles.

— We thank the committee for this opportunity to present our views, and would welcome any questions the committee might have.

[The statement of Mr. Huizenga follows:]

AMERICAN INTERNATIONAL AUTOMOBILE DEALERS ASSOCIATION

1128 16th Street, N.W., Washington, D.C. 20036
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TESTIMONY OF THE

AMERICAN INTERNATIONAL AUTOMOBILE DEALERS ASSOCIATION

BEFORE THE UNITED STATES HOUSE OF REPRESENTATIVES
COMMITTEE ON WAYS AND MEANS

HEARING ON LONG-TERM STRATEGIES FOR THE ENVIRONMENT

MARCH 7, 1990

The American International Automobile Dealers Association represents the 9,500 franchised new car and truck dealers who market imported vehicles in the United States. Our members and their 240,000 employees sell and service imported automobiles and trucks in the United States, as well as the domestically produced vehicles by these importers. We appreciate this opportunity to address the Committee with our views on the subject of long-term strategies to improve our environment.

We support a carbon fee to address environmental and energy security issues. Such a fee would more effectively address all fuel consumers and provide the least market distortions, while reducing our dependence on foreign oil and reducing global warming gases. In addition, it would provide market incentives, rather than regulatory burdens, for automobile manufacturers and consumers to reduce our nation's fuel consumption.

While, our testimony will address the use of a carbon fee and other measures that can be taken to reduce fuel consumption, and thereby address environmental concerns, we urge the committee to consider the severe consequences of those steps before resorting to such measures.

Manipulation of the marketplace to increase the fuel efficiency of automobiles sold in the U.S. will cause tremendous market dislocation and disruption in the automobile industry - for manufacturers, dealers and consumers.

Therefore, the aim of Congress should be to ensure that the market dislocation and disruption is not out of balance with the environmental gain. Overall environmental goals should be achieved with the <u>least</u> economic distortion.

Any support for measures that would regulate the free flow of goods in the automobile marketplace can only be given after a very close scrutiny of the benefits and burdens imposed by such regulation. And only after careful consideration of the validity and significance of the environmental concern and the elimination of all other options would we support such action.

<u>Global Environmental issues must be resolved on a global basis. The U.S. automobile industry is not the solution to global environmental problems.</u>

Recent scientific and congressional focus on the so-called global warming theory has heightened interest in improving automobile fuel economy. Environmentalists have demanded that automobile carbon dioxide emissions be drastically reduced, requiring comparably drastic increases in fuel economy, to stop the perceived threat of global warming.

Regardless of the validity of their concerns, it is obvious that the issue must be addressed globally if any measurable change in CO_2 emissions is desired. According to the EPA, total carbon dioxide emissions from automobiles account for only about 16 percent of total U.S. CO_2 emissions, about four percent of total worldwide CO_2 emissions and 2.5 percent of all global warming gases.

Currently, the Bush Administration is involved in an international conference on global climate change. If the issue is to be addressed effectively and equitably, global cooperation is necessary to reduce the level of fossil fuel consumption, and thereby reduce CO_2 emissions.

A carbon fee is a more effective and comprehensive method by which to address global warming and energy conservation.

We believe that the current federal policy on automobile fuel economy, employing CAFE and a gas guzzler tax, is ineffective and even counter-productive. A carbon fee is a more effective and comprehensive method by which to reduce CO_2 emissions and address both energy security and global warming. It is a free market solution to a fundamental market issue.

During the time that CAFE standards have been in force, average automobile fuel economy has risen significantly. But, according to a November 1989 report by the staff of the Federal Trade Commission, a significant reason for that rise in fuel economy has been the increase in gasoline prices rather than the imposition of CAFE standards.

That finding was echoed in an August 1988 National Highway Traffic Safety Administration document, in which the Agency stated:

> " . . . the growing view of economic thought [is] that the decontrol of the price of oil and changes in gasoline prices, rather than CAFE standards, were primarily responsible for the increase in fuel efficiency over the past decade. The nation might well have achieved similar results simply through the natural operation of the market."

It is clear that an increase in the cost of gasoline, as the result of the carbon fee, would trigger an increase in demand for more fuel-efficient vehicles and reduce the number of miles driven. Increases in the CAFE standard do not provide any incentive to individuals to reduce fuel consumption.

Marketplace solutions to fuel consumption limitations are best demonstrated by the reaction of the airline industry to fuel consumption. Facing spiraling fuel costs, domestic air carriers have invested billions of dollars in more fuel-efficient planes. Despite the enormous price of these new planes, airlines found that the cost of new planes was less than the cost of operating with an inefficient fleet of planes. Increases in gasoline costs for drivers would provide a similar stimulus to purchase more fuel-efficient vehicles and to drive less.

A carbon fee would encourage energy conservation in all sectors of the economy and would impact every automobile on the road immediately. It would take several years before CAFE increases would show any measurable impact on fuel consumption due to the lead-time needed by manufacturers to shift production towards more fuel-efficient automobiles - and at great cost to both the manufacturer and the consumer.

Because of this cost, CAFE can even <u>increase</u> fuel consumption. According to the FTC study, while technological progress may increase the average new car fuel efficiency over time, the

improvements may lead to an increase in the price of new vehicles that may be greater that the savings to consumers in reduced fuel operating costs. In other words, CAFE encourages individuals to keep their old gas-guzzlers longer because of CAFE-induced price increases.

A carbon fee simply addresses the problem more quickly and more comprehensively than CAFE by modifying the fuel consumption behavior of each individual and increasing demand for newer, more fuel-efficient vehicles.

The Gas Guzzler Tax is ineffective and does not encourage fuel savings.

The Gas Guzzler Tax does not influence the number of miles an individual person will drive his or her automobile. Vehicle miles travelled is the most important consideration in any policy that is aimed at reducing fuel consumption. A carbon fee would more effectively influence fuel conservation by maintaining a high operating cost for inefficient vehicles over the lifetime of those vehicles. Increasing the cost of gasoline would directly influence day-to-day decisions on fuel consumption and stimulate consumer demand for fuel-efficient automobiles.

Manufacturers are currently facing a host of new government regulations. Despite manufacturers' use of new technologies to improve fuel economy, their efforts to increase fuel economy have been hampered by regulatory burdens. The Gas Guzzler Tax does not account for these regulatory burdens.

Further emissions reductions expected from amendments to the Clean Air Act will further reduce manufacturers' ability to improve further their average fuel economy. We support recent national and international efforts to ban the use of chlorofluorocarbons (CFCs) to reduce the build-up of global warming gases. However, if these efforts are successful, manufacturers' ability to improve fuel economy would again be hampered. The most likely substitute for current automobile air conditioners that use CFCs is less efficient and would require compressors that are much larger in size. As a result, these air conditioners would require greater engine power and could force manufacturers to design vehicles that would be less aerodynamic, both forcing losses in fuel economy. Recent rulings on safety standards to be implemented in the next few years will add weight to vehicles and result in reduced fuel efficiency.

Taken together, these burdens on the automobile industry are likely to push more vehicles into the gas guzzler tax category, despite the fact that these vehicles have employed more and more fuel economy technologies.

Instead of burdening the industry with the gas guzzler tax and regulations, we would recommend a tax credit for fuel-efficient automobiles to provide a positive incentive for consumers to purchase those automobiles. However, it should be established only if a non-market means of influencing consumer demand for fuel-efficient automobiles is deemed necessary.

We thank the Committee for this opportunity to express our views on these issues. We hope our comments will help the Committee develop policies that will responsibly and equitably address the genuine concerns presented by energy security and environmental issues.

Mr. MOODY. Thank you very much.
Mr. Garnett.

STATEMENT OF STAN GARNETT, VICE PRESIDENT, FINANCE, ALLEGHENY POWER SYSTEM, INC., NEW YORK, NY; ON BEHALF OF COALITION FOR ACID RAIN EQUITY

Mr. GARNETT. Mr. Chairman, members of the committee, I am Stan Garnett, vice president, finance of Allegheny Power System. I am testifying today on behalf of the Coalition for Acid Rain Equity [CARE], a diverse group of business, labor and public officials who advocate a more equitable solution to some of the current clean air proposals.

The point of my testimony is to explain the need for cost equity in the Clean Air Act, and to suggest financial incentives that will help the affected utilities finance the enormous capital cost which will result from the proposed legislation.

Meaningful cost sharing, either through an emissions fee, or restoration of the type of tax benefits previously available to utility companies and others, will not only relieve our ratepayers from paying an unfair share of the cost, but will also encourage utilities to install pollution control devices, scrubbers, which will help preserve vital jobs in the already depressed Midwest.

I preface my testimony by saying that CARE supports the goal of cleaner air, and we are willing to do our fair share of the SO_2 emissions reductions; however, we don't understand the logic of passing legislation before the comprehensive NAPAP report is available.

Mr. MOODY. Could you move the mike a little closer to your mouth? Thank you. It is a little hard to hear you. Thank you.

Mr. GARNETT. With that caveat, let me begin. Is that better?

Mr. MOODY. Yes.

Mr. GARNETT. The various clean air proposals now pending before Congress would have the owners of specified powerplants in Midwestern States bear 76 percent of the entire SO_2 emissions reduction, yet they only account for about 50 percent of the national total. This extra 26 percent could cost the Midwest an extra $10 billion.

While older powerplants in the Midwest are major emitters of SO_2, their owners have already spent one-half of the Nation's total to clean the air, reducing over 1 million tons of SO_2 since 1980. One way to rectify the inequity and encourage the use of pollution control technology would be an SO_2 emissions fee, which is supported by Energy and Commerce Committee Chairman John Dingell, and Subcommittee Chairman Phil Sharp. Chairman Sharp has proposed a $55 a ton fee on industries which emit more than 100 tons of SO_2 a year. This fee would go into a fund that would then be available to utility companies that overcontrolled in phase I. They would receive $75 a kilowatt, which would cover about 25 to 30 percent of capital costs, and save ratepayers about 15 percent.

While the emissions fee would be helpful, it is vital, and frankly, only fair to bring back the investment tax credit for pollution control facilities, and to allow the use of tax exempt debt financing for the same facilities. Both of these techniques were available, and ex-

tensively used after enactment of the 1970 and 1977 Clean Air Act and amendments.

One suggested tax package would include an investment tax credit of 20 percent, a consumptive depletion allowance credit equal to 15 percent of the annual cost of the solvent used in pollution control devices, unrestricted availability of tax exempt financing for facilities installed to comply with the act, and accelerated amortization of 60 months. All four are necessary in order to provide utility companies with adequate upfront funds to build the expensive pollution control devices, and help decrease rate shock for customers. The general impact of this tax package requires further study. The Ohio Office of Consumer's Council conducted one study that showed a 15- to 17-percent ITC would make utility Federal income tax payments revenue neutral with respect to utility investments in acid rain control equipment. As we develop more information on the general revenue impacts of this tax package, we will provide it to your staff.

It seems only fair that these tax benefits be restored. More money will be spent to comply with this proposed legislation than with any previous environmental bills. If there are incentives to build more pollution control devices, there will be an increase in the manufacturing base of the environmental restoration industry, creating new jobs and revenues.

Also, furthering the continued use of medium and high sulfur coal will minimize the economic disruptions that will hit the Midwest, and save some of the predicted 100,000 jobs that could be lost. There is a clear national interest in reducing reliance on foreign oil consumption, and conserving domestic supplies of oil and natural gas. It would be foolish to abandon the extensive high sulfur coal market when there are technological ways to burn this fuel cleanly.

I would like to conclude my testimony by saying that acid rain is a national problem that requires a national solution, and should not just be an albatross for Midwestern utilities. But, that is not the case under the current proposals. There are equitable, financially affordable solutions being proposed that deserve serious consideration.

I thank you, Mr. Chairman, for being the first, outside of the Energy and Commerce Committee, to recognize this.

[The statement of Mr. Garnett follows:]

STATEMENT OF STAN GARRETT VICE PRESIDENT, FINANCE, ALLEGHENY POWER SYSTEM, INC. ON BEHALF OF THE COALITION FOR ACID RAIN EQUITY

STATEMENT OF STAN GARNETT, COALITION FOR ACID RAIN EQUITY

Mr. Chairman, Members of the Committee, I am Stan Garnett, Vice President, Finance, of Allegheny Power System, Inc. (APS). I thank you for the opportunity to be here today to testify on potential tax initiatives and fees that are being, or should be, considered in conjunction with the Clean Air Act amendments which Congress is currently reviewing.

APS is one of the larger coal-burning electric utility systems in the United States. The APS wholly-owned operating subsidiaries - Monongahela Power Company, The Potomac Edison Company and West Penn Power Company--typically burn about 18 million tons of coal per year, much of it the high sulfur variety indigenous to the APS service territory. APS has generating capacity totalling 8,066 megawatts, over 7000 of which is coal-fired, and the rest is hydro or pumped storage. APS also has three scrubbers in operation.

I am testifying today on behalf of the Coalition for Acid Rain Equity (CARE), which advocates a more equitable solution to some of the current Clean Air proposals. CARE represents a diverse group of business, labor and public officials, including the United Mine Workers, coal producers, the Naitonal Lime Association, several coal-fired Midwestern utilities, and Congressional Members from the Midwest. I will focus only on Title V of the proposed bill, which is the section on acid rain control.

The point of my testimony today is to emphasize the need for cost equity in the Clean Air Act to help affected utilities finance the enormous capital costs which will result from the proposed legislation. Meaningful cost-sharing -- either through an emissions fee, funded direct payments, or through restoration of the type of tax benefits previously available to taxpayers who installed pollution control equipment -- will not only relieve affected ratepayers from an inequitable and vastly disproportionate share of the costs, but will also encourage affected utilities to install technological systems of continuous emissions reduction -- scrubbers -- which will preserve vital jobs in the already depressed Midwestern areas most likely to be adversely affected by the proposed legislation.

The points I will cover in my testimony are as follows:

First. The proposed Clean Air Act amendments, as presented by the Administration, unfairly target utility companies in the Midwest with a disproportionate share of the required reductions in sulfur dioxide (SO2) emissions.

Second. The Midwest has already spent billions of dollars in successfully reducing SO2 emissions.

Third. The Clean Air Act Amendments of 1977 and the tax situation that existed in the 1970's and '80's allowed utility and other companies much greater use of tax benefits to avoid economic devastation for the states impacted than is now the case.

Fourth. The proposed SO2 emissions fee is not a "tax" but rather a "polluter pays" fee.

And, finally, true cost-equity through an emissions fee and various tax incentives can aid all utility companies complying with the proposed Clean Air Act amendments, can avoid economically ravaging the Midwest and allow its industrial base to maintain its competitive position in the world, and will not drain the national Treasury.

I would like to preface my arguments by saying that CARE and the Midwest utility companies which I am representing today, Monongahela Power, West Penn Power, Potomac Edison, Union Electric, Public Service of Indiana and Illinois Power, all support the goals of cleaner air. However, we don't understand the logic of passing legislation before the comprehensive NAPAP report is available. With that caveat, let me begin.

The various clean air proposals now pending before Congress, including the March 1, Senate-Administration compromise, all have the decided effect of imposing a disproportionate SO2 reduction requirement upon the owners of named units in relation to their actual emissions. For Example, the Senate-Administration compromise would have the owners of specified units in Midwestern states bear 76 percent of the entire reduction despite the fact that the affected states account for only about 50 percent of the national SO2 emissions.

In general, regulatory feasibility, economy of scale and various convenience principles are cited by proponents as the reason for singling out power plants and the disproportionately focused reduction requirement. To our knowledge, there has been no assertion that the identified units have been selected on the basis that their location and character make SO2 reductions at these units particularly beneficial to the professed environmental goals of the legislation. In short, expedience, not science and equity, has been the controlling factor in the determination of which industries and power plants will be affected and which won't.

While older power plants in the Midwest are major emitters of SO2, their owners have already spent one-half of the nation's total to clean the air. Over $21 billion dollars have been spent since 1970 in reducing air pollution, over $10 billion of that was spent by the nine states targeted for a majority of the new emissions reductions. From 1980 to 1985, these nine states reduced SO2 emissions by almost 1 million tons. Yet, during this same period of time, seven, self-proclaimed "clean" states, including some represented by the Alliance for Acid Rain Control, increased SO2 emissions by one-quarter of a million tons.

The Midwest has already made a substantial commitment to cleaner air. Yet, current legislation would require us to bear a disproportionate share of the total cost. That is why we are seeking a more equitable method of spreading the cost among all sources of SO2 emissions. We will clean up our fair share, it's the extra burden, the 26 percent, that we object to paying for.

One way to rectify the situation is an SO2 emissions fee, which is supported by Chairman John Dingell of the Energy and Commerce Committee, and Chairman Phil Sharp of the Energy and Power Subcommittee. That subject is currently under study in their committee and subcommittee.

While the emission fee would be helpful, it seems necessary, and only fair, to bring back the investment tax credit for pollution control facilities, which was taken away for all capital investments in the 1986 Tax Reform Act, and allow the use of tax exempt debt financing for facilities required to meet the legislation. Both of these techniques were available -- and extensively used-- after enactment of the 1970 and 1977 Clean Air Acts and other environmental laws.

I understand the Congresswoman Martin has introduced a bill, H.R. 4140, which would reinstate the 10 percent ITC. While the amount is low, it is a step toward establishing a climate that will not only assist utilities with financing major capital expenditures, but will also help them meet the environmental goals quicker.

A point that relates to the need for cost equity that has not been heard much in the debate on this bill is how the "market approach" that the Administration took when they wrote the bill really won't work.

It was assumed that letting the market place dictate how utilities reduced SO2 emissions would lead to utilities using the most cost effective , i.e. cheapest, approach to pollution reduction. Unfortunately, the regulatory environment in which utility decisions are made generally make it more difficult to invest in capital costs, like scrubbers. Thus, there is an unintended bias toward some less "capital intensive" actions, like fuel switching.

However, in the long run, scrubbers tend to be the most cost effective approach to reducing SO2. They may expensive to build, but they last a long time, and operating costs tend to be less when compared with the costs of purchasing lower sulfur fuels...which will undoubtedly continue to rise in price.

With that understanding, I'll discuss the emissions fee proposal.

Chairman Sharp has proposed a $55 a ton fee on industries that emit more than 100 tons of SO2 a year. Industry is the only contributor to this fund since the House bill, H.R. 3030, exempts industry from having to reduce SO2 emissions. This is a way of enacting the "polluter pays" principle: those who emit SO2 and don't have to reduce emissions, pay.

This fee would go into a fund that would then be available to utility companies that overcontrol in Phase I and reach the federally-mandated SO2 emissions level early. The money going back to utilities is set at $75 a kilowatt. For a typical utility company this amount would cover about 25-30 percent of capital costs, and save rate payers up to 15 percent of what is currently projected to be a significant increase their utility bills. This would also obviously help reduce costs to industry.

While I don't know of any studies done to show how product costs will increase due to the proposed emissions fee, it should be self evident that affected industries are getting a break at $55 per ton compared with estimated costs of actually complying with the required reductions which is about ten times greater.

I do know, however, that the impact of large utility rate increases on industry will be substantial. A survey done by Allegheny Power System operating companies of their commercial users showed that 38 percent of those surveyed said a 10 percent increase in rates would have a great impact on their business, citing negative effects on their competitive position, layoffs and possible plant closures.

Midwest industries produce over 30 percent of our country's goods, as well as over 25 percent of our exported goods. And, since industry is the largest electricity user for many Midwest utility companies, they will be the ones absorbing much of the rate increases. Under the proposed legislation, electric utility rates would increase by 20 to 30 percent. Substantial negative effects on manufacturers of consumer goods such as cars, steel, aluminum, glass and cement must be expected.

Another way to alleviate some of the excess financial burden on the utilities in with the reinstatement of investment tax credits and tax exempt pollution financing of control technology facilities installed to comply with the new Clean Air requirements.

Significant federal income tax-credits and other benefits were generally available in the past to owners of facilities required to make capital expenditures to comply with a broad array of pollution control requirements. These benefits included accelerated amortization (a 60-month write-off), investment tax credit and the availability of tax exempt pollution control financing (which has in the past been up to 200 or more basis points less costly than comparable taxable financing). Allegheny Power System estimates that the availability of these benefits alone would lower the proposed Clean Air costs imposed on APS ratepayers by some 10 to 15 percent based upon the current federal corporate tax structure.

It should be noted that these same benefits would have been worth reductions of from 15 to 20 percent under the higher corporate tax rates that prevailed in the early 1980's. A very broad spectrum of organizations took advantage of these important benefits in the past. As a rule of thumb, the use of these benefits can be measured in relation to the volume of tax exempt pollution control financing effected. As illustrated by the attached summary (attachment A), entities in every state took advantage of such financing techniques, including some who are now claiming most vehemently that they are "clean" states and should not be asked to help solve a clearly national problem. At a minimum, equity requires restoration of these benefits to taxpayers electing technological means to comply with the proposed Clean Air Act Amendments of 1990.

It only seems fair that these tax benefits be restored now. More money will be spent to comply with this proposed legislation than ever before, increasing the manufacturing base of several industries, creating new jobs and revenues. A favorable tax environment that encourages the use of pollution control facilities can only promote greater growth and preserve jobs.

Mr. Chairman, I suggest one possible tax package:

1. An investment tax credit of 20 percent, available up front with carry-forward provisions, but not accompanied by any provisions reducing the basis of an emission reduction facility by any part of the credit;
2. a consumptive depletion allowance credit equal to 15 percent of the annual cost of the sorbent used in pollution control devices;
3. unrestricted availability of tax exempt financing for facilities installed to comply with the Act;
4. accelerated amortization of 60 months.

All four are necessary in order to provide utility companies with adequate up-front funds to build the expensive pollution control technology devices and help decrease "rate shock" for customers. This package would lower the costs imposed on typical utilities by some 15 percent.

The cost of our proposal requires further study. The Ohio Office of the Consumers' Counsel conducted one analysis that predicted a 15 to 17 percent ITC would make utility federal income tax payments neutral with respect to utility investments in acid rain control equipment.

At this point, since the idea of tax credits is relatively new to the clean air debate, we don't have a lot of information on the general revenue impacts of the combination of tax credits and tax exempt financing. We will be developing this information in the near future and will provide the information to your staff.

What is key to remember when discusssing cost equity is that the benefits of a tax credit proposal or the emissions fee go beyond just helping utility rate payers. Reducing the cost of installing pollution control devices will further the continued use of high sulfur coal and thereby minimizing economic disruption. As you well know, Mr. Chairman, high sulfur coal is found primarily in the Midwest -- Illinois, West Virginia, Ohio, Pennsylvania -- and is a vital economic and energy resource for our nation. While many utility companies will switch to lower sulfur fuels to comply with the law, there is great concern that valuable high and medium sulfur coal production will be destroyed and this valuable energy source lost, unless there are incentives to build pollution control devices -- both scrubbers and clean coal technology projects.

There is a clear national interest in reducing reliance on foreign oil consumption and conserving domestic supplies of oil and natural gas.

It would be foolish to abandon the extensive high sulfur coal market when there are technological ways to burn this fuel cleanly.

Under the President's bill, the Midwest's high sulfur coal industry will lose about 30,000 jobs; taking with it another 70,000 in support service and coal-related jobs. This massive job loss will cause severe economic disruption.

I would like to conclude my testimony by saying that the pending Clean Air Act amendments will be one of the most expensive environmental bills in history. It will dramatically impact utilities, their rate payers, industry, and all consumers of goods made in the United States, and especially in the Midwest. The cost of cleaning our nation's air should be borne by <u>all</u> those contributing to the problem; yet that is not the case under the proposed legislation. Acid rain is a national problem that requires a national solution and should not be just an albatross for Midwestern utilities.

There are equitable, financially affordable solutions being proposed that deserve serious consideration. I thank you, Mr. Chairman, for being the first outside of the Energy and Commerce Committee to recognize this. I look forward to working with your committee to rectify the inequities.

Attachment A

Pollution Control Municipal Issues
State Volume
1/1/80 to 1/31/90

State	Total ($Mils)	Percent of Total	# Issues by state
Alabama	807,717	1.58	34
Arkansas	414,550	0.81	19
Arizona	1,608,215	3.14	24
California	4,078,170	7.97	67
Colorado	444,530	0.87	10
Connecticut	452,300	0.88	18
Delaware	220,000	0.43	11
Florida	2,334,380	4.56	49
Georgia	3,076,350	6.01	55
Iowa	199,390	0.39	16
Idaho	59,600	0.12	5
Illinois	1,110,320	2.17	31
Indiana	2,272,250	4.44	41
Kansas	1,252,080	2.45	28
Kentucky	1,683,375	3.29	17
Louisiana	1,892,620	3.70	17
Massachusetts	411,405	0.80	15
Maryland	262,400	0.51	13
Maine	47,250	0.09	9
Michigan	1,767,990	3.46	
Minnesota	467,560	0.91	20
Missouri	1,149,440	2.25	31
Mississippi	769,250	1.50	20
Montana	1,210,260	2.37	21
North Carolina	779,660	1.52	
North Dakota	677,200	1.32	12
New Hampshire	691,550	1.35	25
New Jersey	1,109,345	2.17	36
New Mexico	1,278,145	2.50	21
Nevada	345,200	0.67	11
New York	2,312,863	4.52	61
Ohio	2,716,920	5.31	99
Oklahoma	162,500	0.32	5
Oregon	210,200	0.41	14
Pennsylvania	2,593,150	5.07	52
Puerto Rico	297,000	0.55	7
Rhode Island	5,000	0.01	1
South Carolina	862,580	1.69	22
South Dakota	23,000	0.04	2
Tennessee	182,000	0.36	7
Texas	**5,292,750**	**10.34**	**127**
Utah	837,950	1.05	17
Virginia	727,092	1.42	12
Washington	125,150	0.24	9
Wisconsin	316,250	0.62	12
West Virginia	391,900	0.77	12
Wyoming	1,540,155	3.01	47

Source: Securities Data Co./Bond Buyer

Mr. MOODY. Thank you.

Mr. Chairman.

Chairman ROSTENKOWSKI. I just have one question, Mr. Chairman, thank you.

Mr. Garnett, you testified that the emissions fee, at least in your written testimony, now under consideration in the Energy and Commerce Committee, is not a tax. However, the industries which would be required to pay that fee will receive no service from the Federal Government. The proceeds of the fee will go to the utilities to pay for pollution control facilities. How can this approach not be a tax?

Mr. GARNETT. I would never quarrel with the chairman of this committee as to what was a tax and what wasn't, sir.

Chairman ROSTENKOWSKI. Well, the Commerce Committee and the Ways and Means Committee quarreled quite frequently with that just a few months ago.

Mr. GARNETT. I think that our intent is to try to help the President in terms of his campaign promise of no new taxes.

Chairman ROSTENKOWSKI. Oh, come off it. You know, I was just discussing with my colleagues here—this is the general explanation of the President's budget. There is presently a 12-cent-per-gallon noncommercial aviation gasoline tax, and the President has proposed to increase the air-freight tax to 6.5 percent; the noncommercial aviation gasoline tax to 15 cents per gallon. Now, that is another one of those "read my lips" statements.

I think our problem here, and I'm not lecturing you, Mr. Garnett, I think our problem here is that we are just quibbling about things that are so important, that we ought to be doing in this country with respect to our competitiveness, and you know, we are a great country, and a very generous country, and we have been that all of my life. We have had great resources, and I think we should do something about the environment, but I don't think that we should be out of step with the rest of the world, either. Because, I mean, that is competitiveness, and as far as the Midwest is concerned, we are going to take the bulk of the injury with respect to cleaning the environment, and yet we sit on this committee, and we bail out four States in the savings and loan debacle.

You know, this is cost sharing, as far as I'm concerned. When they are in trouble, we help them. When we are in trouble, they help us.

I'm sorry, Mr. Chairman. I didn't mean to take all that time, but I just thought I would share with you the jurisdictional responsibilities that I have, as chairman, to satisfy men like Mr. Moody and Mr. McGrath, when our jurisdiction is evaded.

Mr. MOODY. Thank you.

Wisconsin has spent a lot of money to clean up electric generation emissions, I certainly sympathize with what the gentleman says, Mr. Chairman, that the Midwest will be hit hard. After we have spent billions, we are expected to now help pay the cost of others.

Mr. Parker, you mentioned aluminum recycling has gone up sharply. Has that had anything to do with the fact that some States apparently are requiring deposits, or are requiring payments for aluminum cans turned in, or is this strictly the public's aware-

ness? I mean, has the price mechanism in some way caused the increase or is it just simply the fact that people are more aware that aluminum can bring money?

Mr. PARKER. We believe that the awareness factor is the key thing that has raised the rate. For example, in the last two cycles that we have kept track of, 1987 to 1988 to 1989, there has been an overall number increase of 10 percent going roughly from a little under 15 percent of the aluminum beverage cans recycled to where as in 1989, the figure is 60 percent, and we believe that that is the American public returning the cans at the tremendous rate. We are up to 49 billion cans returned each year. We only have seven States that have deposit legislation.

Mr. MOODY. How does the behavior in those seven States differ from the other 43, respecting the increases?

Mr. PARKER. The behavior is higher; at the same time, we have developed a free enterprise mechanism where now we have over 10,000 recycling centers around the country, and virtually all the large areas of the country, where the private sector or the aluminum companies themselves are collecting the cans themselves, generating over 900 million dollars' worth of income for Americans who collect cans.

Mr. MOODY. Right, but you admit that compliance has been even better where there is a fee consideration?

Mr. PARKER. I would be delighted to provide that for the record to you directly, in terms of what the rates are per State. I believe the rates are not that significant.

Mr. MOODY. Thank you, that's fine.

[The following was subsequently received:]

the Aluminum Association
Incorporated

900 19th St., N.W.
Washington, D.C. 20006

Phone (202) 862-5100
Telex 710 822 1129
FAX (202) 862-5164

Writer's Direct Dial No: (202) 862-

March 26, 1990

Mr. Robert J. Leonard
Chief Counsel
Committee on Ways and Means
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Leonard:

In the transcript of the March 7 Committee on Ways and Means Hearing on Long-Term Strategies on the Environment, Chairman Moody questioned Mr. David Parker, president of the Aluminum Association, whether states that comply with deposit fees for recycling aluminum have better recycling rates than those states without a fee.

Mr. Parker replied he would supply the answers for the record. Unfortunately, the association does not monitor recycling rates on a state-to-state basis. We are unable, at this time, to supply that information.

If I can be of further assistance, please contact me.

Sincerely,

Yvonne Beeler
Manager, Media Relations
and Public Affairs

Mr. MOODY. Mr. Rothschild, do you agree with Mr. Huizenga that the gas guzzler tax may have had an adverse effect, or at least at a minimum, it makes more sense to make the disincentive for consuming a lot of gas right when they fill up, rather than simply when they purchase the car right at the beginning of the life cycle of the car. Doesn't Mr. Huizenga have a very good point that a continuous incentive is better than that one-shot front end incentive?

Mr. ROTHSCHILD. Well, first of all, the tax at the gasoline pump is a gasoline tax.

Mr. MOODY. I'm sorry?

Mr. ROTHSCHILD. The tax at the gasoline pump is a gasoline tax, which is very regressive, particularly for rural people who don't have any opportunities for alternatives; particularly for people who have long distances to travel, and so forth. We think that putting the burden on the automobile industry makes no sense; in fact, if you look at the tables, and I'll contradict one of the things in his testimony. Table 4 in our testimony, shows that during the period when gasoline prices, for example, were decreasing, and the gas guzzler threshold was increasing, the automobile fuel efficiency of the traditionally low mile per gallon, the inefficient cars, was increasing. So we do know that the gas guzzler tax does promote more fuel efficiency, and people will buy those cars that are more fuel efficient.

We also know that the public is responsive to that, because polling data indicates that people are willing to spend more money for more fuel efficient cars, if they are available, and if the rules require them to be produced.

Mr. MOODY. I will ask Mr. Huizenga to respond to this in a second, but your major opposition to the gasoline tax is its regressivity. You would admit it provides the right incentive, and I assume that you admit that the price of gasoline had been falling like crazy in real terms after inflation, into the lowest that it has virtually ever been, so if we simply restore the gasoline to any fraction of its initial cost, we would be going back in the right direction with respect to incentives; however, you have the incidence question in your mind, is that correct?

Mr. ROTHSCHILD. The incidence question is in my mind. Also, the Energy Conservation Coalition has no position on the gasoline tax, because there is an internal discussion—there is no consensus on the issue, so I cannot speak to that from the point of view of testifying on behalf of the coalition.

Mr. MOODY. But I expect the regressivity issue is at the heart of the difference right now.

Mr. ROTHSCHILD. The debate is between those who are concerned about consumers and the impact on consumers, versus those who see the tax as a way to stimulate more investment in energy efficiency, so there is an internal debate, and I think it is a legitimate debate, but in terms of our response to you, in terms of policy, I can't make a comment on that.

Mr. MOODY. Right, OK. Were you here when the CBO was testifying that if you look at longer term income, as expenditures are the best proxy we have for that, the gasoline tax is actually fairly proportional, not regressive.

Mr. ROTHSCHILD. Well, I think that in the aggregate, that may turn out to be true, but if you look at breaking that data up a little bit, you will find that, as you go up the income scale, people have newer cars, more efficient cars. They may even drive——

Mr. MOODY. They also have two cars, and they drive more.

Mr. ROTHSCHILD. They have two cars, and they may drive them more.

Mr. MOODY. So they spend more.

Mr. ROTHSCHILD. Right, but you also have, at the lower income scale, you also have to take a look at the large proportion of people in the country who live in rural areas, who live in areas of the West where there are long driving distances, where there are no alternatives. You have to break it out regionally, too.

For example, if you live in Chicago, you have the alternative of public transportation, but if you live in some parts of rural Alabama, you don't have that, and people have to use their cars. How do you deal with that problem when, in fact, the cost of a gas tax on a low income rural person may be extraordinarily high, which is why Congress has had so much difficulty, I think, with the issue of the gas tax.

Mr. MOODY. Yes, of course, national petroleum self-sufficiency, is a very important goal because we are reaching the levels of import when the OPEC crisis hit, that affects everyone, rural or urban, in that we are getting dangerously close to that and that, it seems to me, conservation helps everyone in that regard, wherever they live.

Mr. ROTHSCHILD. Which is why we also support—as a coalition—increases in the fuel efficiency standards. I think today, Senator Byran is going to be introducing his legislation to raise the fuel efficiency standard from its present level.

Mr. MOODY. Anyway, the debate shifts more to urban, rural versus rich, poor, because rich people and poor people in rural areas probably drive longer distances. I would point out that people in urban areas drive shorter distances, but often in congestion, at much lower speeds, and they use a lot more petroleum than someone that is driving along at a fuel efficient rate of 55 miles per hour.

Mr. ROTHSCHILD. I think, if you look at the data, that in terms of gasoline consumption, people who live in States where their mileage is longer for travelling tend to use more, and it sort of evens out with respect to, if you look at the home energy consumption data that the Department of Energy puts out, it balances off between the fuel you buy to heat your home, and the fuel used for your car, versus other parts of the country.

Mr. MOODY. All right, thank you very much.

Any members—Mr. Stark.

Thank you very much. I appreciate the panel.

Chairman ROSTENKOWSKI. Mr. Miller, Mr. Bertges, Mr. Campbell, Mr. Williams, and Mr. McCormick, would you join us at the witness table, please?

[Pause.]

Chairman ROSTENKOWSKI. Welcome, gentlemen, to the Committee on Ways and Means. We appreciate the fact that you have taken time out of your busy schedule to join us and to give us the benefit of your expertise. Our committee, as always, looks forward

to the discussions that take place between the private and public sector, and the members that are elected to represent you.

Before I call on Mr. Miller, I would like to yield to a very distinguished member of the West Virginia delegation, who has been a longtime friend of mine, and who, by the way, has helped this committee share some of the benefits of some great advice on the part of his wife, who works with us, and does a great job. My colleague, Mr. Wise.

STATEMENT OF HON. ROBERT E. WISE, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WEST VIRGINIA

Mr. WISE. Thank you very much, Mr. Chairman. I appreciate that opportunity to be here, and to join members of the committee.

I want to thank you for giving the opportunity to me to introduce a couple of my constituents who are testifying before you today. They will be talking, and I appreciate the opportunity to say a few words about the substance of the testimony they are about to give, and how important the section 29 tax credit is to my State and region.

Included on the panel before you are Steve Williams, president of Petroleum Development Corp. in Bridgeport, WV, testifying on behalf of the Appalachian Energy Group, a consortium of independent oil and gas producers. Steve is an engineer, former president of the Independent Oil & Gas Association of West Virginia, and knows well of what he speaks.

Also coming under that category of knowing well of what he speaks is Joseph Campbell, the vice president of Columbia Natural Resources, Inc., located in and serving the constituents of my district, and much of West Virginia. Joe is from Charleston, which is my hometown, and brings also a point of view that I think is important for this committee to hear.

Both Mr. Williams and Mr. Campbell will discuss the much-needed extension of the section 29 credit for oil and gas production from nonconventional sources. Mr. Williams will highlight the importance of the section 29 credit for the small and independent producers. Mr. Campbell will describe a new method of horizontal drilling for gas, used by Columbia in devonian shale areas in West Virginia, for which a section 29 credit is an indispensible incentive.

The extension of the section 29 credit is indeed critical to the oil and gas industry in the State of West Virginia. You were very helpful, Mr. Chairman, and members of this committee, in extending that credit just a couple of years ago. In 1989, over 60 percent of the wells drilled in our State qualified for the section 29 credit. This safety net has helped preserve jobs in areas desperately needing all the employment that can be generated. There is a real fear that elimination of the section 29 credit will end much of the drilling that is presently taking place.

Oil and gas production in West Virginia is not an industry dominated by diversified multinational corporations, but an industry of small mom and pop type companies. With the help of the section 29 credit, these companies have continued to develop domestic production and reserves. The section 29 credit may be the only thing preventing dissolution of the infrastructure necessary to drill new

wells in the region, and as cold as it got this winter, we know how important natural gas is going to be.

Mr. Chairman, I really appreciate the opportunity to be here, and to present Mr. Williams and Mr. Campbell to the committee.

Chairman ROSTENKOWSKI. Thank you very much, my colleague, Mr. Wise. We will begin the testimony this afternoon with Mr. Campbell. You all know how we proceed. I think some of you have been here before. We ask that if you have a statement that exceeds 5 minutes that your entire statement will be included in the record; that you try to summarize, if that is at all possible. We aren't going to hold you to exactly 5 minutes, but I think when you see the red light go on, you will know that we'd appreciate you to start coming to a conclusion.

Mr. Campbell, if you will begin, the committee is ready to receive your testimony.

STATEMENT OF JOSEPH E. CAMPBELL, VICE PRESIDENT, COLUMBIA NATURAL RESOURCES, INC., CHARLESTON, WV

Mr. CAMPBELL. Thank you, Mr. Chairman. I have filed my written testimony—what I'll give to you is a summary. My name is Joe Campbell. I am vice president of Columbia Natural Resources [CNR]. CNR is headquartered in Charleston, WV. It explores for, develops, and produces oil and gas in the Appalachian basin and adjacent areas. We are a subsidiary of the Columbia Gas System, Inc.

Natural gas has two qualities which make it a valuable part of our Nation's energy strategy. First, it is the cleanest-burning fossil fuel. Increasing reliance on natural gas can help us obtain our clean air goals, while reducing the need for stringent emission controls. Second, domestically produced natural gas, which the section 29 tax credit encourages, reduces our Nation's reliance on foreign oil. As you listen to my testimony today, I know the budget deficit is never far from your mind, but I urge you to consider the trade deficit, as well.

This January, the United States imported 54 percent of all the oil we consumed, and oil imports are on the rise. Is section 29 fulfilling the goals Congress set when it enacted the tax credits? Unequivocally, yes. The tax incentive has proven sufficient to promote the discovery and development of relatively inaccessible gas reserves.

I would like to focus my comments on devonian shale, which is particularly important in the Appalachian region, where CNR operates. This region is geographically close to the eastern seaboard's large and growing industrial and residential energy market. What's more, the devonian shale is perfectly suited to serve the needs of cogeneration projects. Cogeneration is an energy efficient means of generating two forms of energy, usually steam and electricity, from a single fuel, such as gas.

The devonian shale is well suited for this purpose, because the typical reservoir is a low volume, low pressure, and has very long production life. Columbia has several devonian shale wells which have been producing for over 80 years. The gas from devonian shale is difficult to recover, because the shale must be fractured in

order to release the hydrocarbons, but there is no doubt that the gas is there. The Appalachian devonian shale which can be recovered using current technology is estimated at 31 trillion cubic feet. To put that in perspective, last year, our Nation consumed over 18 trillion cubic feet of gas. Of that 31 trillion cubic feet of recoverable reserves, only 10 trillion is economically recoverable at a price of $3 per thousand.

But to put that into perspective, the current price is only 70 percent of the $3. Because the tax credit makes up much of the shortfall, it allows marginally economic wells to be developed. Today, there are about 15,000 shale wells in the Appalachian area, producing about 100 to 150 billion cubic feet a year, only a fraction of the total resource. With the extension of the tax credit, recovery of these reserves could be significantly higher. Because of this enormous potential, new production and drilling technologies are being developed to unlock these reserves. For example, CNR is now working with the Department of Energy on horizontal drilling of devonian shale. The program's purpose is to reduce the risk, and improve the economics, to increase recovery of this large, undeveloped resource.

The section 29 tax credit is a true production credit. It applies only after the gas reserve has been developed and is producing. That means that all the risks inherent to the exploration and development are borne by the producer.

In summary, the section 29 tax credit is working. During the past 10 years, CNR alone added 29,500 million cubic feet of devonian shale to its reserves. We plan to drill an additional 171 shale wells this year. That is the good news, but unless Congress acts, the section 29 drilling incentive won't be available after 1990.

I respectfully urge the committee to extend this credit now. That will allow the United States to continue enjoying the clean air and energy security benefits provided by these reserves. While my comments today have been directed to the nonconventional fuel tax credit, we also applaud Congressman Andrews' bill establishing tax credits for alternative fuel vehicles. Thank you.

[The statement of Mr. Campbell follows:]

TESTIMONY OF
JOSEPH E. CAMPBELL
VICE PRESIDENT
COLUMBIA NATURAL RESOURCES, INC.
BEFORE THE COMMITTEE ON WAYS AND MEANS
UNITED STATES HOUSE OF REPRESENTATIVES
ON THE TAX CREDIT FOR THE
PRODUCTION OF NON-CONVENTIONAL
FUELS, SECTION 29 OF THE INTERNAL
REVENUE CODE

March 7, 1990

Introduction

Mr. Chairman, my name is Joseph E. Campbell, and I am testifying today in my capacity as Vice President of Columbia Natural Resources, Inc. ("CNR").

CNR, with headquarters located in Charleston, West Virginia, is a wholly-owned subsidiary of The Columbia Gas System, Inc. CNR performs all oil and gas exploration, development and production activities of the Columbia system in the Appalachian basin and adjacent areas, operating in ten states.

CNR believes that natural gas is important not only to the national energy supply as a source of energy, but also to the national environment as a clean-burning fuel. For example, natural gas emits virtually no sulfur dioxide (the primary precursor of acid rain), virtually no volatile organic compounds (the primary cause of low-level ozone or smog), and emits less carbon dioxide (a chief contributor to global warming) than any other fossil fuel.

Moreover, the importance of developing domestic gas reserves should also be viewed in the light of the nation's accelerating dependence on foreign oil. The American Petroleum Institute reports that the U.S. imported 46 percent of its crude oil needs in 1989, up from 31 percent in 1985, and expects that percentage to increase to 60 percent by the end of the century. Gross imports reached 54 percent this January.

CNR supports a permanent extension of the Internal Revenue Code Section 29 tax credit for producers because it is an important incentive to elicit additional production of natural gas. We appreciate the efforts of Congressmen Andrews and Archer to extend the credit. On a related matter, CNR recommends that Section 29 of the tax code be clarified so as to implement the intent of the Natural Gas Wellhead Decontrol Act of 1989.

The Section 29 tax credit is a true "production" credit. The credit applies only after the gas reserves have been developed and are producing. That means that all the risks inherent to exploration and development are borne by the producer.

Is the tax credit achieving the goals envisioned by Congress? Unequivocally, yes. Devonian shale reserve additions of CNR alone during the past 10 years amount to 29.5 Bcf. And CNR plans to drill an additional 171 Devonian shale wells in 1990.

Devonian Shale Gas

CNR supports extension of Section 29 tax credits for production of fuels from all non-conventional sources, including gas from the Devonian shale, coal bed methane, geopressurized brine, and tight sands. However, CNR would like to focus on the production of gas from the Devonian shale, which is of primary importance to us in the Appalachian basin.

The Appalachian region is geographically situated to be an ideal gas supplier to the Eastern Seaboard's large industrial and residential energy markets. The current and projected energy demands of the Eastern Seaboard's concentrated population necessitate the development of adequate, reliable energy reserves which are strategically located to efficiently meet this demand. Such domestic supply would also aid in offsetting the area's dependence on foreign energy sources. Appalachia's Devonian shales are an important resource for meeting these needs.

Gas-containing Devonian shales are found in the Appalachian producing basin in New York, western Pennsylvania, Maryland, eastern Ohio, West Virginia, eastern Kentucky and western Virginia. See Exhibit 1. Natural gas has been produced from the Devonian shales for nearly 170 years. The earliest report of Devonian shale production was from a well completed near Fredonia in Chautauqua County, New York, in 1821. Production in Ohio and West Virginia began in the mid 1800's, while development of the largest and most prolific production field, the Big Sandy in eastern Kentucky and southwestern West Virginia, commenced in the early 1900's.

The Devonian shale in Appalachia varies in thickness from a few tens of feet in the western outcrop areas to in excess of several thousand feet as one proceeds eastward across the basin. The shale is essentially comprised of multiple, alternating layers of organic rich black shales which act as both source and reservoirs for the gas, and organic lean gray shales which, where fractured, also act as reservoirs. The average producing depth ranges from less than 1000 feet in the northern and western parts of the basin to about 3000 to 6000 feet in the areas of historic production. Development of Devonian shale is difficult because the formation is so dense that gas cannot readily flow from the reservoir to the well bore.

The Devonian shale of the Eastern U.S. is characterized as a low volume/low pressure reservoir with a very low rate of production decline. Typical wells produce between 10-100 Mcf per day, and many wells have producing histories exceeding fifty years. In fact, Columbia has several Devonian shale wells which have been in production for over 80 years. This compares to an average life for wells in the Southwest of 6 years. Exhibit 2 compares the long production life of a typical Devonian shale well with decline curves for high and medium permeability wells in the Appalachian basin.

These low-volume, long-life Devonian shale wells perfectly fit the needs of cogeneration projects, which require a stable, long-term energy supply. Cogeneration is an energy efficient means of generating two forms of energy -- usually steam and electricity -- from a single fuel, such as gas. CNR has entered into contracts to supply several cogenerators on the Eastern Seaboard who find this gas and its location so desirable. Unlike most of today's exploratory wells, Devonian shale wells are located in close proximity to existing major transmission lines serving the Eastern United States and in an area of proven reserves.

Estimates of the Devonian shale gas-in-place resources for the Appalachian basin, prepared for the Department of Energy in 1988, range from 200 to over 2,500 trillion cubic feet. By comparison, in 1989 U.S. consumption of natural gas was less than 19 trillion cubic feet. However, using current technology, estimated recoverable reserves amount to 31 trillion cubic feet, with only 10 trillion cubic feet economically recoverable at a price of $3 per Mcf. Since the current price is only 70 percent of that $3, the tax credit makes up much of the shortfall and allows marginally economic wells to be developed.

At present, there are about 15,000 shale wells in the Appalachian Basin. These wells produce a total of about 100 to 150 billion cubic feet of gas annually -- only a fraction of the resource. (See Exhibit 3.) With extension of the tax credit, the recovery of these reserves could be significantly increased.

Because of the enormous potential of this resource, new production and drilling technologies are being developed to unlock the Devonian shale reserves. CNR is now working with the Department of Energy on a co-funded project to drill and stimulate a horizontal well in the Devonian shale on the West Virginia-Kentucky border. The program's purpose is to increase the knowledge and experience base of horizontal drilling in the Devonian shale in order to reduce the risk and improve the economics of increasing gas recovery in this large, underdeveloped resource.

Because of the enormous potential of these reserves and their location, the necessity for drilling the Devonian shale is clear. Natural gas is a clean-burning, domestic fuel which is expected to play an important part in improving the nation's environment and minimizing dependence on foreign oil. To date, the potential reserves of natural gas held by the Devonian shale have been developed in large part due to the Section 29 tax credit. Further technology could reap still larger reserves; but new technology is expensive, and gas prices are comparatively low. When the tax credit was originally established by the Congress, the average natural gas price was double today's price. This means the tax credit is needed now more than ever.

At a recent meeting of the Eastern Kentucky Section of the Society of Petroleum Engineers, 27 companies, including CNR, indicated their plans to drill 759 wells in eastern Kentucky, southwestern Virginia and Southwestern West Virginia during 1990, 78 percent of which would be drilled to the Devonian shale. Clearly, the Section 29 tax credit is a major factor in this effort to unlock this reserve potential.

Coordination With The Decontrol Act

In approving the Natural Gas Wellhead Decontrol Act of 1989, the Senate Committee on Energy and Natural Resources stated that its approval was not intended to adversely affect the availability of Section 29 tax credits. Any inconsistency between the Decontrol Act and Section 29, therefore, should be clarified for those producers who have relied upon the Section 29 credits.

Conclusion

CNR supports making permanent the non-conventional fuel tax credit so as to promote the production of gas from all relatively inaccessible sources. The national energy security and environmental benefits resulting from increased reliance on natural gas cannot be fully realized without extension of this credit.

Mr. STARK [presiding]. Thank you, Mr. Campbell.
Mr. Williams.

STATEMENT OF STEVEN R. WILLIAMS, PRESIDENT, PETROLEUM DEVELOPMENT CORP., BRIDGEPORT, WV, ON BEHALF OF APPALACHIAN ENERGY GROUP

Mr. WILLIAMS. Thank you, Mr. Chairman. My name is Steve Williams, and I am here today representing the Appalachian Energy Group, and I am the president of Petroleum Development Corp. I want to thank you for the opportunity to testify in favor of the extension of the section 29 credit, and the restoration of the tight sands tax credit.

The Appalachian Energy Group was formed to provide a forum for the exchange of information among State associations in the Appalachian basin. Among our members are the State associations of New York, Pennsylvania, West Virginia, Kentucky, Ohio, and Virginia. We represent thousands of independent oil and gas companies throughout the Appalachian basin. Our members believe that the restoration and extension of section 29 benefits is crucial to the economic future of the oil and natural gas industry in the Appalachian basin, and is an essential prerequisite to the efficient and effective development of America's nonconventional fuel resources.

The Appalachian Energy Group supports legislation which would reinstate the tight sands tax credit, make the section 29 tax credit permanent, and make the section 29 credit allowable against the alternative minimum tax.

Mr. Chairman, I could talk for a long time about how important this credit is to the producers in West Virginia and the Appalachian basin, but I'd like to talk a little bit today about why I think it is important to the Nation, as a whole. First of all, there are tremendous savings to be realized by natural gas consumers throughout the country from the additional gas supplies that are available as a result of this tax credit.

Second, by maintaining, or even increasing our ability to drill, the credit can be used to help retain the infrastructure that is necessary for drilling in the Appalachian basin, and in other areas of the country. Competitive resources of gas supplies will be enhanced now, and in the future, as a result of the maintenance of this infrastructure.

Third, the credit represents a low risk and cost-effective method for the Government to encourage development of nonconventional fuel resources, because only successful efforts are rewarded.

Finally, additional sources of natural gas will be made available to help achieve the environmental goals of this country. Natural gas can substitute for other fuels with significant environmental benefits.

First of all, the lower prices to consumers: Retention and extension of the benefits of section 29 can greatly reduce costs for consumers of natural gas from all sources. The current so-called bubble of natural gas supply will likely disappear in the near future. Even a small decrease in supply at that point can greatly affect the cost to consumers. The price bite for fuel oil in December

in the Northeast should serve as an illustration of the basic economic fact. The result of maintaining section 29 credits therefore could be reduced price from all sources of natural gas production for a relatively small tax credit commitment for section 29 gas.

Incentives provided by the credit will make additional supplies available at the marketplace. If the effect is only 1 cent per MCF reduction in the average gas price, the savings to consumers in this country is $180,000,000 per year, more than enough to pay for the package. I might also point out that the benefits of lower gas prices are particularly important to those Americans who must spend a large portion of their income on the basic necessities like food, heat and housing.

A second major point is the maintenance of the infrastructure. For 8 of the last 10 years, the Appalachian basin led all areas of the United States in well completions. In 1988, we dropped to the eighth, and in 1989, based on the number of wells that are there, it looks like we will be as low as fifth.

Mr. Chairman, with the vast majority of Appalachian basin reserves found in nonconventional formations, the lagging performance of the Appalachian basin could be offset by extension of section 29 and reinstatement of the tight sands credit.

The third point is that the section 29 credit is a low risk, cost-effective incentive. As I said earlier, this credit costs the Government only if the drilling of wells is successful and gas is produced. There is no cost for unsuccessful efforts, so the risk of drilling is borne by the producer.

My final point is that additional supplies of natural gas can help this country to achieve its environmental goals. As other members of this panel have pointed out, and will point out, natural gas is the cleanest of the fuels that can be used and fired in various kinds of combustion engines.

Mr. Chairman, I believe that these are good reasons that Congress ought to consider reinstatement of the tight sands credit, making permanent the extension of section 29, and to allow limited use of the credit against the alternative minimum tax. We applaud ongoing efforts in both the House and Senate to do these things, and we look forward to your activity in the future. Thank you very much.

[The statement of Mr. Williams follows:]

STATEMENT OF STEVEN R. WILLIAMS
OF THE APPALACHIAN ENERGY GROUP
MARCH 7, 1990
ON NONCONVENTIONAL FUELS TAX CREDIT
BEFORE THE HOUSE WAYS AND MEANS COMMITTEE

Mr. Chairman, my name is Steve Williams. I am representing the Appalachian Energy Group (AEG) and am President of Petroleum Development Corporation. I want to thank you for this opportunity to testify in favor of the extension and restoration of the nonconventional fuel source tax credit in Section 29 of the Internal Revenue Code of 1986.

The Appalachian Energy Group was formed to provide a forum for the exchange of information among the oil and natural gas producing associations within the Appalachian Basin. AEG member associations are the following: the Independent Oil & Gas Association of New York, the Independent Oil & Gas Association of West Virginia, Kentucky Oil and Gas Association, the Ohio Oil & Gas Association, the Pennsylvania Natural Gas Association, the Pennsylvania Oil & Gas Association, and the Virginia Oil & Gas Association. Our members represent thousands of independent oil and natural gas companies that together produce virtually all of the oil and natural gas in the Appalachian Basin. Our members believe that restoration and extension of Section 29 benefits is crucial to the economic future of the oil and natural gas industry in the Appalachian Basin and is an essential prerequisite to the efficient and effective development of America's nonconventional fuel resources.

The AEG supports legislation which would:

1. Reinstate the tight sands credit.
2. Make the Section 29 credit permanent subject to the current phase-out if gas prices rise.
3. Make the Section 29 credit allowable against the alternative minimum tax (AMT).

Mr. Chairman, I could talk for a long time about how important these provisions are to the producing industry in the Appalachian basin, but my presence here is obvious testimony to that fact. Instead I want to focus on why these provisions are important to, and worth the cost to, the country in general.

I think there are at least four reasons that these provisions deserve your consideration and support:

1. There are tremendous savings to be realized by natural gas consumers throughout the country from additional gas supplies developed as a result of the tax credit.

2. By maintaining or even increasing drilling activity, the credit can help to maintain what remains of the infrastructure, in the Appalachian Basin and other areas, which will be needed to meet future gas needs. Competitive sources of supplies will be enhanced now and in the future, because many regions of the country as well as small independent producers are positively effected by the credit.

3. The credit is an extremely low risk and cost effective method for the government to encourage development

of nonconventional fuel sources, because only successful efforts are rewarded.

4. Additional sources of natural gas will be made available to help achieve the environmental goals country. Natural gas can substitute for other fuels with significant environmental benefits.

1. Lower Gas Prices for Consumers

Retention and extension of benefits under Section 29 can greatly reduce costs for consumers of natural gas from all sources. The current so-called "bubble" in natural gas supply will likely disappear in the next 12 months, leaving gas supply and demand in rough equilibrium. (See American Gas Association, Natural Gas Production Capabilities 1989-90, July 25, 1980). Given the high degree of price sensitivity for natural gas, even a small decrease in supply at the point of equilibrium can greatly affect the cost to consumers. The price spike for fuel oil in December should serve as an illustration of this basic economic fact. The result of maintaining Section 29 credits, therefore, could be a reduced price across all sources of natural gas production for a relatively small tax credit commitment for Section 29 gas.

The incentives proposed by the AEG will make additional supplies of gas available in the market. If the effect is only one cent per MCF reduction in the average gas price, the savings to consumers will be over $180 million dollars per year, more than enough to pay for the package.

I might also point out that the benefits of lower gas prices are particularly important to those Americans who must spend a large portion of their income on the basic necessities of life like food, heat, and housing.

2. Maintenance of the Infrastructure

For 8 of the last 10 years, the Appalachian Basin lead all regions of the United States in number of natural gas completions. However, in 1988, the Appalachian Basin fell to third and in 1989 it is projected to be as low as fifth. With annual numbers of completions routinely above 10,000 in the early 1980's, the Appalachian Basin had only 3,262 completions in 1988, and we expect final numbers to show even less in 1989. (See Petroleum Information Corporation Petroleum Frontiers, 1989, special supplement at 42-45).

Mr. Chairman, with the vast majority of Appalachian gas reserves found in nonconventional formations, the lagging performance of the Appalachian Basin could be offset by extension of Section 29 and reinstatement of tight sands gas. Because of the risk involved, the Appalachian Basin has encountered much difficulty in joining any national recovery in the natural gas sector.

Most frightening is the prospect that the Appalachian Basin may be losing an entire generation of natural gas producers. As geologist, technicians and pipeline operators permanently leave the field to pursue other careers, the Appalachian Basin's capability to respond to the need for increased supplies is greatly diminished. Restoration of Section 29 credits, however, can help prevent the continued erosion of our infrastructure and insure the capacity to meet future demands, particularly in the concentrated fuel consumption area of the Northeast.

Extension of the Section 29 credit now, rather than at some future date is also particularly important to the Appalachian Basin. More than other regions of the country, the Appalachian Basin relies on outside sources of capital to fund its drilling operations. Establishing the relationships necessary to obtain this capital can take years, and the uncertainty about the future of the credit discourages potential investors from even beginning the investment evaluation process. Relief from the AMT is important to the many small companies on the Basin who routinely reinvest a large portion of their cash flow in drilling, but who do not have other profit centers generating income to use the credits generated.

It is critical for America's energy future to maintain the unique opportunities available in the Appalachian Basin. By virtue of its proximity to the large Northeast gas market, the Appalachian Basin can most efficiently provide gas supplies necessary for the region. The Appalachian Basin has traditionally been among the most reliable and secure of domestic energy sources. The reinstatement and extension of the Section 29 credit will restore a stable energy supply in the region. Gas formations in the Appalachian region have low stabilized yield rates with levels of about 20 to 50 MCF per day per well. However, the formations are stable, continuing to produce for as long as 25 to 50 years. Although these wells will provide stable levels of gas even as the market fluctuates, Section 29 credits are necessary to provide an impetus for production when the return may be long-term.

3. Low Risk, Cost Effective Incentives

If Congress were presented a defense program where you only paid for systems which worked, or a housing program received funding only if decent housing was provided at an affordable cost, you would probably wonder if you were hearing correctly. But that is what this program does for natural gas. We put up the risk capital to drill and complete wells, and only if we are successful, only if gas is produced and if we earn a profit, will we earn any credit. That is the plan Congress devised in 1980 and it was working well until the courts stepped in and turned it upside down.

In order to be eligible for the tax credit, Section 29 requires that gas be sold prior to January 1, 2001, and produced from wells drilled prior to January 1, 1991. In addition, qualified tight sands gas must be subject to price regulation by the U.S. government. A 1988 Supreme Court decision effectively decontrolled virtually all tight sands gas, even though prices for gas are depressed.

Mr. Chairman, tight sands gas prices have not increased with deregulation; in fact, they have fallen considerably since deregulation began in 1985. Gas prices are no where near the $5.17 MCF level tax officials feared regulated gas might reach. The anticipated windfall the retraction of Section 29 sought to eliminate simply never materialized. And Appalachian producers were hit with the double barreled blow of declining revenues and increased taxes.

Current prices will not support development of most nonconventional source gas. Since 1987 development of tight sands gas has virtually stopped. The same thing will happen to the other nonconventional sources if the credit is allowed

to expire. This is clearly not in the best interest of the country.

4. Achieving Our Nation's Environmental Goals

Natural gas is far and away the best of the fossil fuels from an environmental perspective. Increased natural gas utilization is an efficient and economically sensible approach to achieving our clean air objectives, including the reduction of acid rain. The Gas Research Institute found that "concern over the effects of acid rain, high levels of tropospheric ozone and the greenhouse effect" should provide "significant impetus to greater use of natural gas." (See Science, April 21, 1989, at 306-07). Natural gas-fired systems produce virtually no SO_2, volatile organic compounds, or particulates. An exploitation of tight sands, Devonian shale, and other nonconventional gas sources is a reasonable approach towards the goals of maximizing our natural gas potential, and minimizing air pollution.

Mr. Chairman, I believe these are four good reasons for the Congress to reinstate tight sands tax credit, make permanent Section 29 qualification period, and to allow limited use of the credit against AMT. There are other positive effects I have not addressed like the local effects on employment and tax revenue in some of the less prosperous areas of the country.

We applaud ongoing efforts in both the House and Senate to restore the Section 29 credit for tight sands gas production and to extend the placed-in-service date and we encourage the members of the Ways and Means Committee to concur in that judgment.

Restoration and extension of the Section 29 tax credit is an essential incentive to the independent producer to assure an adequate and secure supply of natural gas for the country. Mr. Chairman, on behalf of the Appalachian Energy Group, I want to conclude by thanking you and your colleagues for your attention to this matter.

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Mr. STARK. Thank you, Mr. Williams.
Mr. Miller.

STATEMENT OF MICHAEL J. MILLER, VICE CHAIRMAN, TAX COMMITTEE, INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA; AND PRESIDENT, MILLER ENERGY, INC., KALAMAZOO, MI

Mr. MILLER. Thank you, Mr. Chairman. Good afternoon. My name is Mike Miller. I am president of Miller Energy Inc., an independent oil and natural gas producer from Kalamazoo, MI. I also serve on the tax committee of the Independent Petroleum Association of America.

As we are here today focusing on the tax system and how it can be used to improve the environment, I would like to concentrate on the section 29 nonconventional fuel credit. The section 29 credit is primarily available for gas production. In comparison to other fossil fuels, the use of gas as an energy source is more advantageous to the environment.

Fossil fuels provide more than 65 percent of our current energy consumption, and it is forecasted that they will provide 63 percent of the energy consumption in the year 2000. With this in mind, it is extremely important that we have a tax system in place which will provide incentive for the search of additional nonconventional gas reserves. The purpose of the section 29 credit previously stated in committee reports is one, to provide producers with alternative fuels for protection against significant decreases in the average wellhead price for uncontrolled domestic oil with which alternative fuels frequently compete. Two, the committee believed that the tax credit for the production of energy from alternative sources will encourage the development of these resources by decreasing the cost of their production relative to the price of imported oil, and three, as has been touched on, if the credit leads to the development of these alternative sources, it would make a major contribution to reducing dependency upon foreign oil.

All of these concerns remain in effect today, especially in light of the fact that we are now approaching 50-percent dependency upon foreign sources for our energy needs. The section 29 credit has proven effective by providing additional incentive for exploration for us to pursue nonconventional sources. As it has been explained, it is important to note that the credit is only used in the advent of successfully developing new gas reserves. It is a credit based upon success; there is no credit for the drilling of dry holes.

The section 29 credit has been instrumental in increasing activities in certain areas throughout the United States. Let me give you a couple of examples: in the Michigan basin where I do most of my activity, in 1989 we experienced 1,166 drilling permit applications. Of this, approximately 700 were for the pursuit of the Antrim formation, a devonian shale. Sixty percent of the Michigan activity was in search of the gas from nonconventional sources qualifying for section 29 credit. Michigan Oil and Gas Association expects this percentage to increase in 1990, as additional exploration companies pursue this formation.

From a personal standpoint, Miller Energy participated in 12 wells in the Michigan basin in 1988. In 1989, we participated in

over 100 wells in the Michigan basin, of which, 87 were drilled to test the Antrim formation. One of the major reasons for our turnabout, for this increase, is due to the section 29 credit.

In 1990, we expect to be involved in over 250 wells which will pursue the Antrim formation; again, directly relating to the section 29 credit. This is providing jobs, this is providing work for drilling contractors, this is providing work for service companies; it is supporting the Michigan economy.

Increased employment, additional domestic production, and a reduction in imports—three key issues, all enhanced by the result of the section 29 credit. The Independent Petroleum Association of America has four recommendations with respect to the section 29 credit. First, the section 29 credit was designed to provide nonconventional fuels protection against significant drops in wellhead prices. It is currently serving that purpose, and it makes no sense to let it expire. The IPAA strongly recommends that the nonconventional fuel credit be extended for a minimum of 3 years to allow oil and natural gas producers time to fully develop projects to produce nonconventional fuels.

Second, tight formation gas production only qualifies for section 29 credit if it is regulated. FERC has ruled, and the U.S. Supreme Court has upheld such ruling in the Martin Exploration case, that duly qualified gas is to be treated as deregulated. With this decision, the safety net that Congress had intended to provide for tight formation gas production has disappeared. The IPAA strongly supports the removal of the must-be-regulated criteria for tight formation production, and therefore, reinstate the tight formation production as a qualifying fuel.

Third, while the section 29 credit has provided additional incentive for the pursuit of nonconventional fuels, the incentive has been limited due to the alternative minimum tax impact, which applies for two reasons. First, the section 29 credit is not available to offset AMT liability, and second, the very nature of nonconventional fuel activity creates considerable intangible drilling cost, due to its low-volume, high-success characteristics.

With the intangible drilling cost being included as a tax preference item under the AMT, most explorationists involved in nonconventional fuels find themselves paying AMT, and not being able to fully utilize the credit. IPAA recommends that the section 29 credit be creditable against both regular tax and alternative minimum tax, and should be allowed as a carryover to the extent not currently being utilized.

Fourth, many of these nonconventional fuel projects have multiple-year payout, and long producing lives. IPAA recommends that the production expiration date of December 31, 2000, be extended for the life of the projects, or until phased out according to current price phase out rules.

In closing, the oil and natural gas industry continues to experience a depressed economy, due to the lack of stability in the price of oil, and the uncertainty in the natural gas market. The independent producer has been hardest hit because of his reliance upon a single source of revenue, the wellhead.

There is one bright spot in the oil and natural gas industry. That is the drilling and production activity that is occurring throughout

the United States as a direct result of the section 29 credit. Congressional intent is being served; natural gas exploration and production activities are still occurring, even during the downturn, so that the industry can deliver natural gas without supply interruptions.

This gas is the cleanest burning fossil fuel and does enhance the environment. Thank you, Mr. Chairman, for this opportunity.

[The statement of Mr. Miller follows:]

Oral Statement of
Michael J. Miller
of the
Independent Petroleum Association of America
before the
Committee on Ways and Means
on the Use of the Tax System to Improve the Environment
March 7, 1990

My name is Mike Miller. I am President of Miller Energy Inc., an independent oil and natural gas producer from Kalamazoo, Michigan. I also serve on the Tax Committee of the IPAA, the national association which represents the 10,000 independent crude oil and natural gas explorers/producers in all 33 states with oil and natural gas production, who form the backbone of the domestic petroleum industry.

As we are here today focusing on the tax system and how it can be used to improve the environment, I would like to concentrate on the Section 29 Nonconventional Fuel Credit. The Section 29 credit is primarily available for gas production. In comparison to other fossil fuels, the use of gas as an energy source is more advantageous to the environment. Fossil fuels provide more than 65 percent of our current energy consumption and are forecast by the Energy Information Administration to provide 63 percent of the energy consumption in the year 2000. With this in mind, it is extremely important that we have a tax system in place which will provide incentive for the search for additional nonconventional gas reserves.

Section 29 of the Internal Revenue Code of 1986 provides a tax credit to producers of certain qualified fuels extracted from nonconventional sources, subject to a phase out when certain crude oil price levels are reached. Section 29(c) defines qualified fuels for purposes of the tax credit and includes oil produced from shale and tar sands, and gas produced from geopressured brine, Devonian shale, coal seams, tight formations, and biomass. The credit is only allowed for gas produced from a tight formation to the extent that such gas remains regulated. Finally, only nonconventional fuels which are produced from wells and facilities which are "placed in service" prior to January 1, 1991 are eligible for the credit.

The purpose of the Section 29 credit was explained in the committee reports:

"... to provide producers of alternative fuels with protection against significant decreases in the average wellhead price for uncontrolled domestic oil, with which alternative fuels frequently compete."

"The committee believes that a tax credit for the production of energy from alternative sources will encourage the development of these resources by decreasing the cost of their production, relative to price of imported oil."

"If the credit leads to the development of these alternative sources, it would make a major contribution to reducing our dependency on imported energy."

At the time that the Section 29 credit was enacted, the above were valid concerns. More importantly, all of these concerns remain in effect today, especially in light of the fact that we are now approaching 50 percent dependency upon foreign sources for our energy needs.

The Section 29 credit has proven effective by providing additional incentive for explorationists to pursue nonconventional fuel sources. It is important to note that the credit is only allowed if the explorationist is successful in

developing new gas reserves. It is a credit based upon success. There is no credit for the drilling of dry holes. The Section 29 credit has been instrumental in increasing activities in certain areas throughout the United States, leading to new discoveries which, in turn, assist in reducing our reliance upon imports. Let me provide you with a couple of examples:

1. The Michigan Basin in 1989 experienced 1,166 permit applications. Of this, 698 were for pursuit of the Antrim formation, a Devonian Shale. Sixty percent of the Michigan activity was in search of gas from nonconventional sources qualifying for the Section 29 credit. The Michigan Oil & Gas Association expects this percentage to increase in 1990 as additional exploration companies pursue this formation.

2. From a personal viewpoint, my company, Miller Energy, Inc., drilled approximately 12 wells in the Michigan Basin in 1988. In 1989, we participated in the drilling of approximately 100 wells, wherein, 87 were drilled to the Antrim formation. One of the major reasons for this increase was the Section 29 credit. For 1990, we anticipate being involved in over 250 wells which will pursue the Antrim Devonian Shale formation. As you can imagine, increasing the activity to this extent provides additional work for drilling contractors and other service companies, provides additional jobs and supports the Michigan economy.

Increased employment, additional domestic production and a reduction in imports; three key issues, all enhanced as a result of the Section 29 credit.

The IPAA has four recommendations with respect to the Section 29 credit:

1. The Section 29 credit was designed to provide nonconventional fuels protection against significant drops in wellhead prices. It is currently serving that purpose and it makes no sense to let it expire. The IPAA strongly recommends that the nonconventional fuel credit be extended, for a minimum of three years, to allow oil and natural gas producers time to fully develop projects to produce nonconventional fuels.

2. Tight formation gas production only qualifies for the Section 29 credit if such gas is regulated. FERC has ruled, and the U.S. Supreme Court has upheld such ruling in Martin Exploration, that dually qualified gas is to be treated as deregulated. With this decision, the safety net that Congress had intended to provide for tight formation gas production has disappeared. Removing the "must be regulated" criteria for all tight formation gas production would fulfill the Congressional intent that has been frustrated by the Martin Exploration decision. The IPAA strongly supports the removal of the "must be regulated" criteria for tight formation production and therefore the reinstatement of tight formation production as a qualifying fuel.

3. While the Section 29 credit has provided additional incentive for pursuit of nonconventional fuels, the incentive has been limited due to the severe AMT impact which applies for two reasons:

(A) the Section 29 credit is not available to offset alternative minimum tax liability; and

(B) the very nature of nonconventional fuel activity creates considerable IDCs due to its low volume/high success characteristics.- With IDC being included as a tax preference item under the AMT, most explorationists involved in nonconventional fuels find themselves paying AMT and not being able to fully utilize the credit.

IPAA recommends that the Section 29 credit be creditable against both regular tax and alternative minimum tax and should be allowed as carryover to the extent not currently utilized.

4. Many of these nonconventional fuel projects have multiple year payout and long producing lives. IPAA recommends that the production expiration date of December 31, 2000 be extended for the life of the projects, or until phased out according to current price phase out rules.

The oil and natural gas industry continues to experience a depressed economy due to the lack of stability in the price of crude oil and the uncertainty in natural gas pricing. The independent producer has been hardest hit because of reliance on a single source of revenue, the wellhead. There is one bright spot in the domestic oil and natural gas industry; that is, the drilling and production activity that is occurring throughout the country as a direct result of the Section 29 credit. Congressional intent is being served. Natural gas exploration and production activities are still occurring during cyclical downturns so that the industry can deliver natural gas without supply interruptions. This gas is the cleanest burning fossil fuel and does enhance the environment.

Thank you Mr. Chairman for this opportunity to testify.

Mr. STARK. Thank you, Mr. Miller.
Mr. Bertges.

STATEMENT OF JOHN C. BERTGES, PRESIDENT, EQUITABLE RESOURCES ENERGY CO., PITTSBURGH, PA; ALSO ON BEHALF OF AMERICAN GAS ASSOCIATION AND INTERSTATE NATURAL GAS ASSOCIATION OF AMERICA

Mr. BERTGES. Thank you, Mr. Chairman. I am John C. Bertges, president of Equitable Resource Energy Co. I am also appearing on behalf of AGA and INGAA to affirm that the natural gas industry supports, one, the extension of the section 29 credit, at least 5 years, to cover nonconventional gas sold through 2005, from wells drilled through 1995.

Two, the elimination of the requirement of regulating the Senate prices in section 29 that limits the availability of the credit for tight formation gas, and, three, the enactment of House bill 2269, the Alternative Fuels Incentive Act of 1989.

Acid rain, ground level ozone formation, and global warming are the three air-quality problems that deserve top priority remedies. Increased use of natural gas can make dramatic reductions to these environmental problems. Passage of our section 29 recommendations will help to ensure an adequate supply of natural gas to support increased demand. Meanwhile, passage of House bill 2269 will encourage use of clean-burning, natural gas, as a vehicle fuel.

According to the May 1988, DOE study, one-fourth of the estimated remaining reserves in the lower 48 States, or 259 trillion cubic feet, lie in nonconventional sources: Devonian shale, coal bed methane, and tight formations. Much of this gas lies in well-known shelter reservoirs found near existing pipelines, and can be developed with less risk and delay than typically associated with new exploration drilling. However, the DOE study showed that the vast bulk of these reserves cannot be produced economically for less than $3 per MMBtu, but even at the current, noneconomic price of $2, the section 29 credit enhances that price for shale, and coal seam gas by an effect $1.20 to a better, not the best, but to a better economic recovery level of $3. The credit only applies if sufficient price incentives in the marketplace are lacking. It phases out the prices exceeding $4 per MMBtu, as adjusted for inflation.

Therefore, the elimination of the credit, while market prices are still lagging, will jeopardize the reduction of a significant portion of the remaining natural gas reserves. The tax credit has been successful in stimulating drilling in this type of gas, as shown by the data compiled by the Energy Information Administration, on exhibit 2 to our written statement. This exhibit indicates marked increases in 1987 over 1988 in the number of new conventional wells, as well as the production of such gas. The continued availability of the credit is necessary because of the high-cost and low-well production rates encountered with nonconventional gas. These wells typically require expensive fracturing techniques, and have production lives that can run in excess of 30 years.

The credit is cost-effective, because it is only based upon the amount of the production actually sold into the market. If the well

is unsuccessful, no credit is available, and all the risk of drilling stays with the producer.

With respect to tight formations, there are special requirements of section 29 that must be met in order for the production to qualify for the credit. Recent FERC actions, including Order No. 519, eliminating the regulatory incentive price, have caused most previously drilled tight formation wells to lose, unfairly, the credit up to 15 years prior to the original 2001 expiration date set by Congress, and make it impossible for new wells drilled after May 12, 1990 to qualify for the credit.

Furthermore, the remaining wells that are currently producing will lose the credit when natural gas becomes fully decontrolled by no later than January 1993. We therefore recommend that the regulated price requirements, which apply to tight formation gas, be eliminated in order to reinstate and continue the credit.

I will now turn to House bill 2269, a bill that seeks to use tax incentives to promote improved air quality by encouraging the use of natural gas as a vehicle fuel. AGA and INGAA fully support this bill, and we commend Congressman Andrews for displaying the foresight to develop a bill months ago that could serve as an excellent complement to the Clean Air Act amendments currently under consideration. It appears very likely that Clean Air Act amendments will dramatically increase the number of alternative fuel vehicles on the road. By offering the tax credit to the purchase of these vehicles, or their refueling stations, we estimate that House bill 2269 will significantly reduce the payback period for recovering the associated capital investments.

In short, a typical fleet owner could reduce the time required to recover any capital investment in alternative fuel vehicles by using the air quality tax credit. Thank you, and we appreciate very much the chance to address this committee.

[The statement of Mr. Bertges follows:]

STATEMENT OF
JOHN C. BERTGES
PRESIDENT, EQUITABLE RESOURCES ENERGY COMPANY
ON BEHALF OF
THE AMERICAN GAS ASSOCIATION AND
THE INTERSTATE NATURAL GAS
ASSOCIATION OF AMERICA
BEFORE THE
COMMITTEE ON WAYS AND MEANS
UNITED STATES HOUSE OF REPRESENTATIVES
ON TAX CREDITS FOR NONCONVENTIONAL GAS
AND H.R. 2269,
"THE ALTERNATIVE FUELS
INCENTIVE ACT OF 1989"

March 7, 1990

Introduction

Equitable Resources Energy Company (EREC) is a subsidiary of Equitable Resources, Inc., and is based in Pittsburgh, Pennsylvania. EREC has been a leader in the development of nonconventional natural gas in the Appalachian Basin.

The American Gas Association (A.G.A.) is a national trade association consisting of 250 natural gas distribution and transmission companies. Collectively, A.G.A.'s member companies deliver close to 85 percent of the nation's natural gas consumption.

The Interstate Natural Gas Association of America (INGAA) is a national trade association comprising member companies that account for over 90 percent of all natural gas transported in interstate commerce and subject to the jurisdiction of the Federal Energy Regulatory Commission as mandated by provisions of the Natural Gas Act (NGA; 15 U.S.C. 717 et. seq.) and the Natural Gas Policy Act (NGPA; 15 U.S.C 3301 et. seq.)

EREC, A.G.A., and INGAA are pleased to present our views on the nonconventional fuels tax credit under Section 29 of the Internal Revenue Code and H.R. 2269, a bill that would allow air quality tax credits of up to 20 percent of certain property associated with alternative fuel vehicles or refueling stations for such vehicles.

Summary of Positions

We believe an extension of the Section 29 tax credit is in the national interest and vital for the continued development of nonconventional natural gas from Devonian shale, coalbed methane, and tight formations. For the following reasons, A.G.A. and INGAA recommend the credit be extended at least an additional five years (to cover gas sold until the year 2006 from qualifying new wells drilled up to 1996). We also recommend reinstatement of the credit for tight formation gas.

With respect to H.R. 2269, we strongly support the bill and commend Congressman Andrews for developing a proposal that could serve as an excellent complement to the Clean Air Act amendments currently under consideration in Congress.

Environmental Benefits of Natural Gas

Because natural gas is an extremely clean burning fuel, its increased use can contribute significantly to improved air quality. Therefore, we believe that it is prudent to adopt energy/environmental policies that encourage natural gas production and consumption. The extension of the nonconventional fuels tax credit under Section 29 of the tax code and the enactment of H.R. 2269 would help to accomplish these goals, respectively.

Acid rain, ground-level ozone formation, and global warming are the three air quality problems that deserve top-priority remedies. The primary precursors of acid rain are believed to be sulfur dioxide (SO_2) and nitrogen oxides (NO_x). In both stationary and vehicular applications, emissions of SO_2 from natural gas are essentially zero. Emissions of NO_x from stationary sources can be cut 10-65 percent by switching from other fuels to natural gas.

Ground-level ozone forms when reactive hydrocarbons and NO_x come in contact with sunlight. Using natural gas virtually eliminates reactive hydrocarbons from stationary sources and reduces their emission levels from gasoline-powered vehicles by almost 90 percent. We have already noted the NO_x reductions that natural gas can achieve from stationary sources. With regard to mobile sources, a recent study by Professor Enoch J. Durbin of Princeton University indicates that an engine designed to run on natural gas could achieve NO_x reductions of 80 percent or more by burning a leaner fuel mixture.

One of the primary causes of possible global warming is thought to be increased concentrations of carbon dioxide (CO_2) in the atmosphere. In conventional boilers, natural gas can reduce CO_2 emissions by 50 - 70 percent. In vehicles, we estimate that net CO_2 reductions of 30 percent can be achieved by natural gas as compared to gasoline.

Description of the Section 29 Credit

The Section 29 credit applies to new nonconventional wells -- those drilled since 1979 and before the end of this year. It covers qualifying production sold from these wells until the year 2001. The drilling deadline was to have ended last year but Congress in 1988 extended it through 1990. The tax credit today is approximately 52 cents per MMBtu for tight formation gas and about 80 cents per MMBtu for gas from other nonconventional sources. However, most tight formation gas cannot actually qualify for the credit. This is because the Section 29 rules require that this gas be sold at a regulated price, and actions taken by the Federal Energy Regulatory Commission (FERC) beginning in 1984 have now effectively decontrolled most tight formation gas. Moreover, the FERC recently issued Order No. 519, which eliminates an incentive price for tight formation gas. In effect, this Order terminates the availability of the credit for any tight formation gas that may have been produced from a well drilled after May 12, 1990. Gas produced from other nonconventional sources is not subject to these restrictions.

The credit was part of the nation's response to the OPEC oil embargo and the gas shortage crises of the 1970's. Congress felt that development of our vast nonconventional gas resources should be stimulated through a production credit which would reduce dependence on imported energy.

Nonconventional gas development is often a less attractive investment due to the higher costs and lower well production rates involved. The wells typically require expensive fracturing techniques and other technology to stimulate production to commercial levels. Further, it can take 30 years or more to deplete the recoverable gas reserve. With coal seam gas, for example, we find the initial investment can run 10-20% more than for a conventional well. This is due to the higher costs of stimulating and completing multiple seams, additional compression and production equipment, and facilities for the disposal of the water produced with this gas. In addition, monthly well operating costs can run 300-400% more.

Beyond that, geologic factors increase the impact of price volatility risks to these wells. The effects of hydrostatic pressure, which exist in most coal seam gas wells, eliminate the options of temporarily shutting in a well or reducing its gas flow

rate in response to changing market conditions. Such options are available to conventional well operators. Similarly, the limited flow rates of tight formation wells make recovery of cash flow disruptions virtually impossible. These and other factors differentiate risks inherent in nonconventional wells as compared to conventional wells.

We believe the credit is a cost effective incentive for this kind of production. Much of this resource base consists of well-known, shallower reservoirs found in proximity to existing pipelines. The gas therefore can be produced directly into the marketplace with less cost, risk and delay than that typically associated with new exploration drilling. This benefits consumers and enhances industry competitiveness through increased supplies of gas and lower prices. The need for this gas becomes more immediate as the current so-called "gas supply bubble" disappears.

The credit is also cost effective because it is solely based on the amount of production actually sold into the market during the initial phase of a well's life. If the well is unsuccessful, no credit is available, and all of the risk of drilling stays with the producer. Further, the credit applies only to the extent sufficient price incentives in the marketplace are lacking. The credit is designed to phase out as the price per barrel of oil rises above $23.50 and terminates completely at $29.50, adjusted for inflation. On a Btu equivalent basis, these phaseout thresholds equate to $4.05 and $5.08 per MMBtu, respectively.

The Continued Need for the Credit

For the last several years, general market conditions have been nowhere near the $4-5.00 per MMBtu levels indicated above. The recent wellhead price offered for new gas has in many cases fallen below $2.00 per MMBtu. Thus, without the credit after 1990, many producers simply would not have economic margin to develop nonconventional gas sources, and a large amount of our nation's proven reserves would be rendered unavailable to consumer markets.

This is confirmed by results of a May 1988 DOE assessment. Exhibit 2 is taken from the report and shows that nonconventional gas reserves comprise approximately 259 Tcf or about one-fourth, of estimated remaining reserves in the lower 48 states. However, 61% of the potential tight formation, 68% of the potential shale, and 83% of the potential coalbed methane reserves are shown on this exhibit as not economically recoverable at prices less than $3.00 per Mcf.

However, even at a current noneconomic price of $2.00 per Mcf, the Section 29 tax credit enhances the price for shale and coal seam gas by an effective $1.20 per Mcf to a better economically recoverable level of $3.20 per Mcf. The $1.20 per Mcf is derived as shown below. For tight formation gas, the enhancement would be approximately $0.79 per Mcf.

$$\frac{\$.80}{(1 - .34)} = \$1.20 \text{ Mcf}$$

or

Effective Selling Price	$1.20
Less 34% Fed. Inc. Tax	(.40)
Equivalent Tax Credit	$ .80

The tax credit has been successful in stimulating drilling for this type of gas as shown by the data compiled by the Energy Information Administration (EIA) on Exhibit 2. This exhibit indicates marked increases in the number of new nonconventional wells and the total production of gas from 1980 when the tax credit became effective. The total number of nonconventional wells as a percentage of all post-NGPA wells has risen from 6.7% in 1980 to 18.3% in 1987. The total amount of nonconventional production as a percentage of the total of all post-NGPA new gas production has also risen from 3.9% to 10.6% during this same period. That this has occurred as gas prices were falling is strong evidence that the Section 29 credit was working as an effective incentive.

In EREC's case, shown below, the Section 29 credit has been an important factor in the development of nonconventional tight formation, coal seam, and Devonian shale gas in the Appalachian Basin.

Number of Tax Credit Wells Drilled (1986-89)		Equitable's Investment	Gross Gas Reserves Developed
Kentucky	225	$44.4 million	58.7 Bcf
New York	39	4.1 million	4.1 Bcf
Pennsylvania	27	4.6 million	4.1 Bcf
Virginia	175	39.8 million	51.9 Bcf
West Virginia	66	11.7 million	14.4 Bcf
	532	$104.6 million	133.2 Bcf

EREC evaluates new drilling proposals based on Payout (how long it takes for the investment to be recouped on an after-tax basis) and the Income/Investment Ratio (the ratio of after-tax well income to the capital investment), with discounted cash flow Rate of Return also being considered. EREC prefers new wells to pay out in no more than 4.0 years and have an Income/Investment ratio of 2.0 or higher. With the credit, an average nonconventional well comes close to meeting these economic parameters. Without one, given prevailing market prices, it does not. Because of the unfavorable tight formation economics, EREC has concentrated on development of Devonian shale and coal seam gas in the Appalachian Basin because they have more favorable economics.

	Payout Years (ATAX)	Income/Invest (ATAX)	Disc. Cash Flow ROR (%) (ATAX)
1. Tight Sands/ Devonian Shale*			
With Credit	3.7	1.9	19.9
W/O Credit	6.2	1.7	10.6
2. Central Appalachian Coal Seam			
With Credit	3.2	2.1	25.9
W/O Credit	5.3	1.4	10.3

*Composite average for new tight formation and shale wells drilled in Appalachian Basin.

Eliminate Special Rules for Tight Formation Gas

Gas produced from tight formations must meet special rules. First, to be eligible for the credit, the price of tight formation gas must be a regulated price. This presents an immediate impediment to the production of tight formation gas. The impediment is an outgrowth of the categorization of natural gas wells under the Natural Gas Policy Act of 1978 (NGPA). A well qualifying as a tight formation well under the NGPA nearly always also qualifies under another category of gas, much of which has been deregulated under the terms of the NGPA.

The FERC has determined that a producer whose gas qualifies under either a regulated price category or a non-regulated price category must choose the non-regulated price category. Because much of the gas that qualifies as tight formation gas also qualifies as non-regulated gas, producers are, therefore, required to choose a non-regulated price for their gas. Consequently, the tight formation gas is not eligible for the tax credit for production of nonconventional fuels in many cases. In effect, this has terminated unfairly the credit for existing wells by up to 15 years before it was otherwise scheduled to expire under the Internal Revenue Code.

The price regulation requirement also presents a potential future problem. As a result of the Natural Gas Wellhead Decontrol Act of 1989, gas will be decontrolled no later than May 15, 1991 (for wells spudded after enactment) or January 1, 1993 (for wells spudded before enactment). Therefore, if the credit were to be extended so that it is available for wells drilled after December 31, 1990, having no regulated price available, tight formation gas from a new well would not qualify for the credit. In effect, this would deny the credit by eight years or more for new wells before it is scheduled to cease under the Internal Revenue Code.

Second, the FERC recently issued Order No. 519,[1/] which will eliminate an incentive price that applies to gas produced from tight formations. Elimination of this incentive price effectively makes it impossible for tight formation gas to meet the requirement under Section 29(c)(2)(B)(ii) that the price of such gas be at least 150 percent of the price for NGPA section 103 gas. The Order affects all tight formation gas where the well is spudded or recompleted after May 12, 1990 and all production enhancement gas where the production enhancement work is begun after that date.

Elimination of this incentive price, because of the operation of contracts in the industry, will cause the price of tight formation gas to fail to meet the second special requirement found in section 29 for tight formation gas. In essence, Order 519 will accelerate the already premature expiration of the credit for gas produced from new tight formation wells to May 12, 1990.

To rectify the special rules that cause the premature termination of the credit for tight formation gas, A.G.A. and INGAA recommend repeal of the price regulation requirement and the minimum price of 150 percent of Section 103 requirement, both of which are found in subsection 29(c)(2)(B) of the Code. This change would place gas produced from tight formations on the same footing as gas produced from Devonian shale, coal seams, and other sources with respect to qualifying for the credit.

Description of H.R. 2269

H.R. 2269 provides an innovative incentive to help to clean up emissions from motor vehicles, a source of substantial amounts of various pollutants in our urban areas. The bill would allow an "air quality credit" of 20 percent of the capital cost of clean-burning motor vehicle fuel property that is used for business purposes. This would effectively reduce the cost of motor vehicles that run on a clean-burning fuel such as natural gas, liquefied petroleum gas (LPG), or fuels that are at least 85 percent methanol, ethanol, other alcohols, or ether. The credit would also apply to refueling stations for vehicles that run on the clean-burning fuels listed above.

Since state and local governments are not federal taxpayers, a tax credit as described above normally would represent no incentive to these government entities. However, H.R. 2269 is written so that it would not preclude state and local governments from taking advantage of the air quality credit; they would be eligible to receive credit equivalent payments from the federal government for their investment in qualified clean-burning motor vehicle fuel property. Thus, the bill would essentially place these government entities in the same position as a taxpayer for the purpose of obtaining the benefit of the air quality credit.

H.R. 2269 would allow a 20 percent air quality credit from 1990 through 1999. Starting in the year 2000, the credit would be reduced by five percent each year, so that it would be completely phased out after 2002.

[1/] 55 Fed. Reg. 6367 (February 23, 1990).

With respect to motor vehicles converted from a conventional motor fuel to run also on a clean-burning fuel, the credit would be available for all of the equipment installed on the vehicle that is necessary to propel the vehicle on the clean-burning fuel. If vehicle manufacturers begin to produce vehicles that run only on a clean-burning fuel, or if conventionally fueled vehicles are converted to run only on a clean-burning fuel, that portion of the cost of the vehicle that is attributable to on-board storage of the fuel or delivery from the storage chamber to the engine would be eligible for the credit. Any refueling facility equipment that is directly related to delivering a clean-burning fuel into a vehicle, including storage tanks or compressor equipment, would be eligible for the credit.

No basis adjustment would be required for property on which an air quality credit is claimed. For taxpayers, this would provide an incentive to purchase clean-burning motor vehicle fuel property, as compared to conventionally-fueled vehicles, since the full capital cost of clean burning motor vehicle fuel property could be depreciated by the taxpayer.

Recapture rules under H.R. 2269 would discourage removal of the equipment that would allow a vehicle to qualify as clean-burning motor vehicle fuel property. If the equipment is removed or disconnected, the air quality credit previously taken by the taxpayer would have to be repaid to the federal government.

Incentives Provided by Air Quality Credit

The effect of H.R. 2269 would be to reduce the simple payback periods on both converted equipment and original equipment manufactured (OEM) vehicles by more than 21 percent. Specifically, we estimate that simple paybacks for converted fleet vehicles would fall from 4.7 years to 3.7 years, and for dedicated OEM fleet vehicles, paybacks would be lowered from 2.8 years to 2.2 years.

These numbers are based on a simple payback methodology: the period of time required for accrued fuel cost savings to pay for the initial capital investment, net of the air quality credit, in incremental vehicle costs and fleet station refueling facilities. Economic assumptions include 40 cents per gallon equivalent cost differential between gasoline and natural gas, incremental vehicle costs of $1,500 and $500 for converted and dedicated NGVs and an average per vehicle refueling station capital investment of $1,000. Assumed annual fuel usage per vehicle is 1,342 gallons/year based on annual mileage of 27,500 miles[2] and 20.5[3] miles per gallon.

In short, a typical vehicle fleet owner could reduce the time required to recover any capital investment in alternative-fuel vehicles by using the air quality credits proposed in H.R. 2269. The accelerated recovery of capital costs should provide a significant economic incentive to vehicle owners such as the fleet operator upon which this example is based.

Complement to Clean Air Act Amendments

Many proposals have been introduced in Congress to amend the Clean Air Act. In recognition of the fact that motor vehicles cause much of the ozone and other pollution found in our cities, these proposals typically include provisions that rely heavily on the use of clean-burning motor vehicle fuel property to achieve improvements in air quality.

Last October, the House Subcommittee on Health and the Environment debated two amendments to H.R. 3030 before approving

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[2] Automotive Fleet Fact Book, 1988.
[3] Automotive Fleet Fact Book, 1986.

an amended version of the bill that would require certain vehicle fleets to begin using alternative fuel vehicles. The amended version also aims to achieve purchases of alternative fuel vehicles on a much broader scale than just by fleet owners.

From the perspective of various affected parties, amended H.R. 3030 and certain other proposals suffer from flaws. These flaws are characterized by the parties as requirements either to put capital at risk with little or no assurance of recovery of that capital or requirements that a small targeted group bear the economic burden of improving air quality for the entire population.

H.R. 2269 could provide a government incentive that works as a complement to the proposed clean air amendments. Because H.R. 2269 would provide economic incentives to purchase clean-burning motor vehicles, it could allay some of the concerns of both the groups required to supply the vehicles and the groups that are expected to purchase the vehicles.

Vehicle manufactures who may be expected to make alternative-fuel vehicles might gain some assurance that the vehicles would be sold if the incentives of H.R. 2269 were available to purchasers. By making alternative-fuel vehicles a lower priced commodity than they would be in the absence of the air quality credit, demand for the vehicles should be stimulated. This provides more reassurance to the manufacturers than a scenario in which the incentives offered by H.R. 2269 would not be available.

Private and public vehicle fleet owners are likely to be required to begin purchasing alternative-fuel vehicles after the Clean Air Act is amended. This will impose some additional up-front capital outlays on the affected fleet owners. However, with respect to NGVs, the fleet owners would achieve a payback of these capital costs because of the lower cost of natural gas than equivalent amounts of gasoline. As explained above, a fleet operator could reduce the payback period for converted vehicles by a year and for dedicated, factory-built vehicles by half a year if the air quality credit were available. Provision of the credit, therefore, would couple clean air requirements with an incentive.

Conclusion

We think EREC's experience is representative of many producers in the Appalachian Basin and across the country. A.G.A. and INGAA recommend that the Section 29 tax credit continue as part of our national energy policy and be extended at least another five years for new wells and qualifying production. In addition, we urge this Committee to eliminate the special rules for tight formation gas. Over the last 10 years, the Section 29 tax credit has proven itself to be a cost-effective means for stimulating substantial additions to the nation's natural gas reserve base. The importance of an extension and the elimination of the special rules is underscored by our dependence on imported oil again surging close to 50% and the general slowdown in conventional gas drilling.

We believe that the air quality credits of H.R. 2269 can play an important role in improving air quality in urban areas in this country. H.R. 2269 could be a vital complement to any amendment to the Clean Air Act that Congress may pass in the near future. H.R. 2269 would provide an effective incentive to put alternative fuel vehicles on the road: it reduces the cost of the vehicles on which the federal government will rely to help to attain cleaner air. This incentive could be particularly meaningful to the fleet operators who may be required to use alternative fuel vehicles since their payback periods for the capital investment made in vehicles could be reduced by as much as a year.

We strongly endorse H.R. 2269 and encourage this Subcommittee to take quick action aimed at passing the bill.

TABLE 1. TOTAL UNITED STATES GAS RESERVES AND RESOURCES ASSESSED

	TECHNICALLY RECOVERABLE GAS, Tcf*	RECOVERABLE GAS BY PRICE** <$3./Mcf	$3.-5./Mcf
LOWER 48 (Conventional)			
PROVED RESERVES, 12/31/86, ONSHORE AND OFFSHORE	159	159	...
INFERRED RESERVES/ PROBABLE RESOURCES, 12/31/86, ONSHORE	85	85	...
INFERRED RESERVES, 12/31/86, OFFSHORE	23	23	...
EXTENDED RESERVE GROWTH IN NONASSOCIATED FIELDS, ONSHORE	119	56	18
GAS RESOURCES ASSOCIATED WITH OIL RESERVE GROWTH***	61	30	11
UNDISCOVERED ONSHORE RESOURCES	219	88	59
UNDISCOVERED OFFSHORE RESOURCES****	134	54	28
SUBTOTAL	800	495	116
LOWER 48 (Unconventional)			
GAS IN LOW-PERMEABILITY RESERVOIRS	180	70	49
COALBED METHANE	48	8	4
SHALE GAS	31	10	5
SUBTOTAL	1,059	583	174
ALASKA			
ALASKA RESERVES	33	7#	0
ALASKA INFERRED RESERVES (COOK INLET AREA)	3	3	0
ALASKA UNDISCOVERED, ONSHORE AND OFFSHORE	93	2#	2#
SUBTOTAL	1,188	595	176
TOTAL	1,188	595	176

*Volumes of gas judged recoverable with existing technology

**Volumes of gas (Tcf) judged recoverable with existing technology by Review Panel at wellhead prices shown (1987$)

***Judged at oil prices of <$24./bbl and $24.-40./bbl

****Outer Continental Shelf

#Component in southern Alaska

Source: U.S. Department of Energy, Office of Policy, Planning & Analysis - "An Assessment of the Natural Gas Gas Resource Base of the United States", May 1988.

Number of Producing Wells and Annual Production in Lower 48 States by Post-NGPA Category 1978-1987 (Volume in Billion Cubic Feet)

	NGPA Section 107 Devonian Shale, Coal Seam & Other[1]		NGPA Section 107 Tight Formations[2]		All New Post-NGPA Production[3]	
Year	Number of Producing Wells	Total Production (Bcf)	Number of Producing Wells	Total Production (Bcf)	Number of Producing Wells	Total Production (Bcf)
1978	3,981	101	241	14	102,681	3,684
1979	4,202	94	1,059	40	124,785	5,845
1980	4,756	90	5,351	211	151,934	7,683
1981	5,883	91	12,169	495	187,779	9,657
1982	7,367	98	19,774	719	220,047	10,862
1983	8,405	103	25,537	838	244,682	11,189
1984	9,470	112	31,981	1,058	271,620	13,043
1985	10,626	116	38,184	1,201	293,696	13,477
1986	11,255	124	42,470	1,234	304,194	13,648
1987	11,649	145	45,178	1,413	309,803	14,708

[1] Includes reported production enhancement wells.

[2] Includes tight formation wells qualifying under other NGPA categories.

[3] Excludes old gas production under NGPA Sections 104, 105, and 106.

Source: Tables FE1-FE3, September 1989 Natural Gas Monthly, Energy Information Administration, Office of Oil and Gas, Reserves and Natural Gas Division, Title 1 data base.

Exhibit 2

Mr. STARK. Thank you very much, Mr. Bertges. Did I pronounce that correctly?

Mr. BERTGES. Yes, you did, sir. Thank you.

Mr. STARK. And saving the best for last, we will now hear from Mr. McCormick.

STATEMENT OF SANFORD E. McCORMICK, PRESIDENT, METFUEL, INC., HOUSTON, TX, ON BEHALF OF SECTION 29 ASSOCIATION

Mr. MCCORMICK. Thank you, Mr. Chairman. My name is Sanford McCormick. I'm the president of MetFuel, Inc., a company that is based in Houston, and whose sole business is the exploration and development of coal bed methane wells. I am here both in my capacity as president of my company, and also representing the Section 29 Association.

We are in favor of a permanent extension of the section 29 credit, and I would like to talk briefly about two aspects of it. I think we have got a very serious problem in the environment, and we also have, I think, an extremely serious problem on the whole question of imports. We have all heard now that we are up at 50 percent. I think what people don't talk about is what we are headed for in the next decade. There are a lot of projections. I happen to be a student of history, and have looked at all the projections that I can see, and the one I believe in, I think, the most strongly, leads me to the conclusion that if we don't do something to improve the situation we are in now, we are looking, instead of $50 billion a year in imports, we are looking at something in the $375 billion a year on import costs by the year 2000.

That leads me to believe that anything that can be done in a reasonably cost-effective way to improve domestic production should be very seriously considered, and I think the results of the section 29 credit in improving not only activity in drilling, but in results of production increases, has been extremely impressive. I have been in the oil business since 1956, and I have not seen anything that has worked as well as the section 29 credit.

No one knows how much coalbed methane, and I am speaking only of coalbed methane—it so happens that is the only thing I am at all qualified to speak on—no one really has any idea how much reserves potential there is in coalbed methane. Numbers are published, as much as 200 to 300 trillion cubic feet, potentially; that is relative to a reserve base of 150 trillion in this country. What we do know is that within the last few years, virtually entirely from two basins—the Black Warrior Basin in Alabama, where we are active, and the San Juan Basin in New Mexico and Colorado, several trillion feet of reserves have been discovered.

I'd like to give an example of our little company, because I think it is kind of a crystal clear, and sort of a pure example. Our company was formed in the fall of 1988. It would not have been formed were it not for this credit. The economics of drilling and producing coalbed methane in Alabama were simply uneconomic without this credit. I could justify that with a lot of facts and figures, but believe me, without it, it simply would not be explored and developed; and there would have been no activity.

With the credit, we were able to attract corporate dollars. We have drilled a number of wells. We don't know exactly how many yet, but we believe we have discovered as much as 1 trillion feet of gas. This entire amount of gas would not have been discovered without this credit.

Now, let me talk a little about what that trillion feet of gas means, because I think that is what counts for the country. A trillion feet of gas is a 1 with a lot of zeros, but in terms of barrels of oil, it is 160 million barrels of oil. Well, anybody in the oil business knows that not many of those fields are discovered every year. One hundred sixty million barrels of oil, which is the equivalent amount for a trillion feet of gas, would cost to import, at the current price of $20, a little over $3 billion. Probably over the next 10 or 15 years, we would be looking at a cost for import of $4 to 5 billion. In other words, one of the major benefits of the discovery of coalbed methane is that it offsets this enormous energy cost, which is now big, and which is going to get a lot bigger in terms of the cost of imports.

My feeling is that the credit should be extended because we have only scratched the surface of the potential. We have only worked in two basins, and there are 20 basins in this country; I think you have seen some illustrations. Just about every State in the country has the potential of coalbed methane, or a very substantial part of them.

I think it has been discussed here fairly adequately that the other advantage, of course, of natural gas is that it has all the advantages of a fuel in terms of the global warming. There is a lot less carbon dioxide produced. Acid rain air pollution, the fact is that natural gas is a perfectly marvelous fuel, compared to any other fuel that is available.

So, in closing, I would like to say that our company, and our association, strongly supports an extension of the credit, and I appreciate very much the chance of talking with you, Mr. Chairman.

[The statement of Mr. McCormick follows:]

Testimony of Sanford E. McCormick,
President MetFuel, Inc., Houston, Texas
On Behalf of the
Section 29 Association

Committee on Ways and Means
United States House of Representatives
March 7, 1990

Mr. Chairman and Members of the Committee, I am Sandy McCormick, President of MetFuel, Inc., a Houston-based oil and gas company. I am also appearing on behalf of the Section 29 Association, a newly-formed coalition of companies in favor of extending the section 29 tax credit. I appreciate this opportunity to share with you my views regarding one way in which the Federal tax system may be used to protect and improve the environment, while decreasing U.S. dependence on foreign energy supplies.

I. Background

Section 29 of the Internal Revenue Code provides a tax credit for the production of certain nonconventional fuels, including natural gas produced from coalbeds, biomass, devonian shale, geopressured brine, and, under some circumstances, tight formations. This credit expires for production from wells drilled or production facilities placed in service after this year.

MetFuel and the Section 29 Association strongly support a permanent extension of the section 29 credit. The credit has encouraged companies like mine to take the risks to find new energy supplies and to improve the know-how to recover those supplies. In the case of production of gas from coalbeds -- which is the business I am in -- estimates are that, largely because of the credit, several hundred trillion cubic feet of gas have been added to U.S. reserves. The capacity of the section 29 credit to increase gas reserves represents both good energy policy and good environmental policy. Since this hearing focuses on the environment, I will focus on that issue.

II. General Environmental Benefits of the Section 29 Credit

The principal environmental benefit of increasing U.S. gas reserves through the extension of the section 29 credit has to do with the physical qualities of natural gas: natural gas is the cleanest-burning fossil fuel available. The clean-burning nature of natural gas results in several specific environmental benefits.

A. Global Climate Change

The clean-burning quality of natural gas produces several major benefits. First, the buildup of carbon dioxide in the atmosphere is widely recognized as posing a risk of global climate change through the so-called "greenhouse" effect. By relying increasingly on natural gas as an energy source in place of other fossil fuels, the country can reduce that risk.

According to 1988 estimates of the World Resources Institute, annual worldwide emissions of carbon dioxide from the combustion of fossil fuels are approximately 5 billion metric tons by weight of the carbon. Our own country traditionally has contributed the largest share of those emissions.

It is well recognized that increased use of natural gas to replace other fossil fuels can help us reduce carbon dioxide emissions. As compared with other fossil fuels, natural

gas produces smaller amounts of carbon dioxide per amount of energy produced. For example, coal emits approximately 80 percent more carbon dioxide than does methane. In fact, it is estimated that, while coal contributes about 26 percent of the total energy derived from fossil fuels in this country, it is responsible for about 33 percent of total U.S. carbon dioxide emissions. By contrast, it is estimated that natural gas contributes 25 percent of fossil-fuel energy but is responsible for only 18 percent of the total carbon dioxide emissions.

B. Acid Rain

A second major benefit of clean-burning natural gas is a reduction in acid rain. Acid rain is caused by the sulphur dioxide released into the atmosphere from the burning of fossil fuels, principally coal. According to an MIT study in 1986, some types of coal emit up to six pounds of sulfur dioxide per million BTUs produced. By contrast, natural gas emits virtually no sulphur dioxide. Accordingly, at a time when the Congress is debating Clean Air Act amendments to deal precisely with acid rain, it is particularly appropriate for the government to take actions that encourage the production and use of gas.

C. Urban Air Pollution

A third major benefit of natural gas use is a significant reduction in certain types of urban air pollution. Ground-level ozone and carbon monoxide are two of the most pervasive air pollution problems in this country. According to a 1986 EPA publication, at least one-third of the U.S. population lives in areas that exceed the National Ambient Air Quality ozone standards and similar numbers live in areas that are nonattainment areas for carbon monoxide. Ground-level ozone is primarily formed by chemical reactions in the presence of sunlight between reactive hydrocarbons (such as gasoline vapors) and nitrogen oxides. Carbon monoxide primarily results from omissions of incomplete combustion of gasoline from automobiles. As in the case of global warming and acid rain, a switch from other fossil fuels to natural gas will result in significantly reduced emissions of volatile organic compounds, nitrogen oxides, and carbon monoxide.

D. Other General Environmental Benefits

Certain other environmental benefits associated with gas production deserve note. Not only is natural gas clean to burn, but it is also clean to produce and transport. The production of gas does not scar the landscape, as coal mining can. Also, the concept of a natural gas "spill" is unknown. Certainly, natural gas pipeline leaks may occur; however, such leaks pose substantially less risk of creating an environmental hazard than a comparable oil pipeline leak.

E. Use of Natural Gas in Vehicles

Promising advances have occurred recently in the field of alternative fuel source production. One such fuel source being actively tested for automobiles is compressed natural gas. Studies indicate that, compared to gasoline, compressed natural gas can reduce emissions of nitrogen oxides, carbon monoxide, carbon dioxide, and air toxics such as benzene, toluene, and polycyclic aromatic hydrocarbons. It is anticipated that, compared to gasoline, carbon monoxide emissions can be reduced by as much as 90 percent and that carbon monoxide emissions can be reduced by 30 percent. It seems clear that the country should encourage the production and use of natural gas for vehicles.

III. Coalbed Methane Production: Reduction in Methane Seepage

An important environmental benefit of the section 29 credit relates to the application of the credit to the production of coalbed methane. My company is involved in the production of coalbed methane. Coalbed methane is a by-product of "coalification."

That is, as subterranean coal seams form, methane also is formed and is absorbed by the coal. Coalbed methane production involves drilling wells to capture the methane.

Coalbed methane production is so important because, in the absence of such production, the methane in coalbeds can seep into the atmosphere during coal mining. In fact, all coal mines have the methane gas pressure relieved from the mines during mining to lessen the chances of deadly explosions. This customarily means simply venting those gases into the atmosphere. As a result, coalbed methane production serves to reduce the amount of methane which would otherwise escape into the atmosphere during coal mining. Because methane is considered to be a factor in causing global climate change, coalbed methane production reduces climate change by reducing methane seepage into the atmosphere.

Obviously, not all coalbed methane production is from coalbeds that are suitable for mining. However, in many cases, the methane production and the mining go hand-in-hand, or have the potential for going hand-in-hand. In those cases, the reduction in methane seepage has the important environmental benefit of reducing the emission of greenhouse gases.

IV. Biomass Methane Production: Reduction in Methane Seepage

As in the case of coalbed methane production, biomass methane production also results in reduced methane seepage. Biomass methane production involves the recovery of methane gas produced in landfills. Landfills compact deposited waste and periodically cover it with a thin layer of dirt. The waste generates methane as the organic materials in the waste decompose.

Over time, some of the methane produced in a landfill can seep out. As an environmental matter, not only can the odor of the leaking gases represent a local nuisance, but, more importantly, the methane in those gases, like coalbed methane, can contribute to global climate change.

It is common for landfill operators to deal with the local environmental problem by venting the methane out of the landfill and burning it off. However, that method -- even if it does partly solve the local environmental problem -- produces carbon dioxide and wastes energy.

The better alternative is to collect the methane for use as a fuel. That is done by laying a system of collector pipes in the landfill and pumping the collected gas into tanks or a pipeline. Such a system represents a substantial investment for most landfills and would not be economic, in most cases, in the absence of the section 29 credit. The credit has played a major role in encouraging landfill operators to capture the methane produced in landfills. The credit should be extended in order to continue to provide that encouragement.

V. Coalbed Methane Production: Compatibility with Clean Air Act

The extension of the section 29 credit would also further the purposes of the Clean Air Act amendments currently being debated by Congress. It is recognized that the Clean Air Act amendments could have the result of economically harming a number of coal mining areas in this country by discouraging coal production and use.

Given this situation, it is appropriate for the Congress to take steps to offset the harm to coal mining areas. One such step is to promote the development of the clean energy from coal -- the coalbed methane. The extension of the section 29 credit is the ideal method for achieving that goal. Substantial economic benefits accruing to coalbed methane producers will directly benefit areas adversely impacted by any slow down in coal production.

VI. MetFuel, Inc. As A Case History

The story of MetFuel, Inc. is illustrative of the benefits of the section 29 credit. MetFuel was founded in 1988 to develop coalbed methane, initially in the Black Warrior Basin of Alabama. The property we acquired was largely unproven, or "wildcat" in nature, and the economics would not have justified drilling for gas without the section 29 credit. Specifically, without the existence of the credit, the risk associated with the venture would have precluded our company from financing our drilling.

With the benefit of the credit, we have been able to drill 33 wells and develop reserves of several hundred billion cubic feet of natural gas. That gas is available to be produced and used by consumers and to replace other, environmentally inferior energy sources. Moreover, MetFuel, and other companies like us, have produced substantial economic benefits both for the areas where we are based and for the areas where we are drilling. Our company has approximately 40 full-time employees, and we also employ a large number of consultants and drilling contractors. Full development of MetFuel's properties will entail the expenditure of approximately $250 million and will create a large number of new jobs. MetFuel's activities could result in the addition to U.S. gas reserves of more than 1 trillion cubic feet. None of this would have happened without the section 29 credit.

The coalbed methane reserves that have been developed by my company and by other companies like mine also have the potential to make concrete reductions in our country's trade deficit. Each trillion cubic feet of new reserves will reduce the country's bill for imported oil in coming years by $3.2 billion, assuming a cost of $20 per barrel for oil. Since the potential exists for many trillions of cubic feet of new reserves from coalbed methane, the reduction in the trade deficit could be many times the $3.2 billion. Moreover, the savings in oil imports translates directly into jobs in this country. For example, a University of Alabama study predicts that more than 10,000 new jobs will be created as the result of coalbed methane activity in that state.

VII. Conclusion

The environmental benefits of the section 29 credit provide strong reasons for extending the credit on a permanent basis. In the Clean Air Act amendments, the country may be asked to pay tens or hundreds of billions of dollars to improve the environment. The section 29 credit, by contrast, is a relatively low cost method of achieving very significant environmental benefits. According to the Joint Committee on Taxation, the cost of extending the credit permanently will be only $6 million the first year and $99 million over five years. Even the cost of restoring the eligibility of tight formation gas for the credit is reasonable compared to the very substantial benefits of the credit.

The argument is often made for the research and development tax credit that all of us benefit from R&D, not just the person who bears its cost, and that therefore the government should step in to share part of the cost of R&D. The same argument applies to the section 29 credit. We all benefit from the clean air resulting from increased natural gas production and use. Yet the environmental benefits of increasing natural gas production from nonconventional sources are not reflected in the return realized by the producer. Accordingly, it is appropriate for the government to step in and share the cost of such production.

It goes without saying that, in addition to environmental benefits, the section 29 credit is a critical tool of energy policy in this country. Oil imports have now surpassed 50 percent of consumption. Once again, the country may be heading toward an energy crisis. Tax incentives such as the section 29 credit are critical for increasing U.S. energy security and reserves and decreasing continued reliance on imported energy.

Mr. STARK. Well, I thank the panel. I guess, as a person who has never been much in favor of permanent credits, I ought to explain to you, at least, my reaction, and if I'm seriously misinformed, I would welcome the correction, but as I recall the credits, and I'll take the wind energy credit, which is gone, in my end of Alameda County, I think there is maybe a gas well, and two oil wells, and a dozen dry holes, but there are 10,000 windmills, and as a matter of fact, there is about the same percentage of profitable windmills as there have been holes drilled in the ground.

The windmills were largely sold as tax shelters, and a few of them worked, and at an artificially high Btu equivalency price for the energy they are generating which was negotiated in the 1970's during the crisis, these guys are making it, and I think they did the right thing. They said, "thank you very much, we needed the credit to support us when we were trying to get capital investment, and when we were learning the new technology, and now we can make it on our own in the market," and somehow, that is my feeling of what a credit ought to do. It ought to be there to stimulate people to either make an investment they wouldn't otherwise make, or develop a new technology and then expire—it is like a sale—a sale goes on forever, it is just a lower price. If you want to get a discount on your Chevrolet that is made in Michigan, it is only a bonus if it ends. If it is $1,000 off forever, it is a $1,000 loss in price, so somehow, it seems to me, for credits to encourage you all to do something, they have got to end.

Now, that doesn't suggest for a minute that a credit that is permanent is a subsidy. I mean, if it is an ongoing production cost, if it is an ongoing credit for that, it really is just a subsidy.

I further guess that 29, for the most part, only applies to—I mean, whatever comes out, a Btu is a Btu, so you all have marginally more expensive production. It is harder for you to get whatever product you are trying to get out of the ground than it is for somebody else.

I would imagine that the need for a subsidy goes away when oil prices go high. You are still marginal. It is still going to cost you more to produce the product than it is somebody who is pumping out of shallow wells—they are easy—but basically, if the oil price gets high enough, you can make a profit, and what I can't quite figure out is why we should permanently subsidize the marginal producers, and I don't say that in a majority sense—I presume that is what most of these products are. I could see it if it develops enough technology so that you can end your dependency, if you will, on this, but I don't want to suggest that the argument is that maybe you are not worthy of a subsidy, but then let's call it that.

I mean, if we need, as a national policy, to constantly have this higher cost energy, then let's figure out how to subsidize it, and then let's see who pays for it, but I'm just concerned that tax credits—and you are in here with some people who, I mean, you talk about geothermal, and some of these others, and for many of us, they are pipedreams, and they have had the credit for a long time, and nothing has happened. In many of the cases, with you gentlemen, I suspect that you never came. You never told us that you were going to develop some shale to some extent. I can remember seeing the retorts in Colorado, and areas where they thought they

were going to find new technology to extract the energy, and I don't know whether that has worked or not, but I think at some point, I think we have to say, "OK, you had your chance. The technology wasn't developed, and you lose." There are winners and losers.

The windmill guys, some of them won, and some of them lost. Am I just completely misunderstanding the technology and the economics of your energy, or—I won't argue with you as to whether you are entitled to a subsidy, but I think that is what it is. I don't think it is ever going to get better unless oil prices go way up, and at least in my part of the country, I'm not going to vote for that right away.

Mr. MILLER. Mr. Chairman.

Mr. STARK. Mr. Miller.

Mr. MILLER. You hit the nail on the head. It is not a permanent credit. You referenced oil prices on a couple of occasions there, and the credit, as it now stands, is tied to the oil price, so that when that oil price reaches a certain level, the credit diminishes, and as oil prices rise, that credit ceases. In simplicity, that is one working mechanism.

Mr. STARK. So if we dropped the trigger price, and extended it, it wouldn't help you much.

Mr. MILLER. Pardon?

Mr. STARK. I mean, it wouldn't help much if we dropped the trigger price, and said——

Mr. MILLER. That's correct.

Mr. STARK [continuing]. If oil went above $10 a barrel, no more credit, you guys would be going out the same door you came in.

Mr. MILLER. That is correct. I think the pricing mechanism that was put in place back in 1979 and 1980 is certainly a valid pricing scenario; unfortunately, the oil price has not reached those levels, but it is not a permanent credit. It is one that does expire based upon an equation that is tied to——

Mr. STARK. It phases in and out. You'd like it to go on forever, but then our argument from then on is going to be you are going to be back to us testifying about where we set the trigger price.

Mr. MILLER. Well, the trigger price, of course, as it now stands, the trigger price is in place, and I'm certainly not one to complain with the current trigger price.

Mr. BERTGES. Mr. Chairman, I think you have to go back to when the Congress passed the Natural Gas Policy Act and understand what you are dealing with here. They recognized that nonconventional gas would have to have a price at least greater than what new gas price was going to be, and they set that——

Mr. STARK. Did we do that before or after we deregulated gas?

Mr. BERTGES. Oh, long before.

Mr. STARK. Yes, but then we deregulated gas, which kicked the price up even more.

Mr. BERTGES. Yes, but back in 1978, when you set the Natural Gas Policy Act——

Mr. STARK. Yes, I understand, but——

Mr. BERTGES. But recognized that the nonconventional gas——

Mr. STARK. But at that point, we had a regulated price for natural gas.

Mr. BERTGES. Oh, that's true, but you recognized that this gas had to have a higher price than new gas, because of the long life reserves connected to it, that this kind of cash-flow that realizes from that, and it needed that support price.

Mr. STARK. I'm not sure.

Mr. BERTGES. Let me——

Mr. STARK. As I say, I'm not sure—in other words—take offshore—you guys aren't in that, so I can—it is a matter of indifference to me; as a matter of fact, I don't want to do any offshore drilling, and I don't think that hurts the country, because if there is oil down there, offshore, it could be there. It is going to be there for our great-grandchildren if we don't drill for it. If we need it, and the price goes up, they'll figure out how to get it out, but by making the decision to not drill, which I may make for you if I don't renew 29, let's say, I'm not—that reserve is still there, and indeed, a no decision is a third alternative, and in the case of offshore, we risk hurting the environment, and if we wait, we are apt to have better technology, which means that you will be able to get it out cheaper, and so I've always said that unless you can show me a shortage, which right now is a little difficult to show, let's leave it there. Let's buy it from Arabia, and leave our reserves where they are.

Look, I understand that doesn't solve your problem, but as I say, the other thing we did, which I'm not sure it helped consumers very much, was to deregulate natural gas, which should have helped the marginal natural gas producers some, because they got a better price. Then, the pinch that I got is that we have got to have a free market economy. That is going to take care of it. If we have free market, and let you free enterprisers decide, then the market will decide. I mean, you can't have it both ways.

I will trade you. You want 29? You want to go back to regulated natural gas prices?

Mr. BERTGES. That wasn't my point.

Mr. STARK. No, I know it, but I'm saying—that is a trade that I could make.

Mr. BERTGES. That wasn't my point. I was just trying to point out where it came from, and when you have the incentive price, and sometime in the future, if you do shut this gas in now, when the price comes back up to $3 or $4, then you are going to have an opportunity, without the credit, to produce this gas again.

In the meantime, what are we going to be doing over the next 5 years? Where are we looking at the oil imports? Where are we looking at the offsets there? And as we've stated before, and I certainly champion the point, when we are using that credit, we are building up revenue streams, and a Government tax stream, coming into the coffers of the United States, because that stimulates the economy.

We, in the Appalachian area, have spent over $100 million in the last 4 years, and it has created 133 Tcf of gas, and that has stimulated a lot——

Mr. STARK. Mr. Bertges, if I followed that philosophy to its logical conclusion; if I kept raising 29, pretty soon I wouldn't have any national debt, right? What you are suggesting to me is that if I

make this 100 times bigger, you are going to pay off the national debt with all the economic stimulation I am going to make?

Mr. BERTGES. No, sir. I didn't imply that. The credit is there until the incentive price returns back in the marketplace, and that was understood by Congress when they did that back in 1978.

Mr. STARK. Anybody else?

Mr. MILLER. I have got a couple of other points, just to mention there in regard to your statement previously: First, to emphasize the fact that it is not a permanent credit, nor subsidy. It does have a sunset to it. Just two quick remarks. As far as leaving reserves in the ground, and using them at a time when they may be needed, that, in simplicity, doesn't work. It takes numbers of years to bring offshore oil, offshore gas, onshore oil, onshore gas, onto line, and into the market stream, so a situation, as we experienced back with the OPEC embargo, would be much more devastating today than it was then, just because we were more dependent than we were at that particular point in time.

Second, the mention of the free enterprise system kind of gave me a little stab in the side, because the oil and gas industry, specifically, the Independent Petroleum Association of America, argued way back when that, yes, we would like a free enterprise system. At a time when the oil and gas prices were rising rapidly, nobody then thought, outside of the oil and gas industry, nobody then thought that a free enterprise system was a necessity or a working mechanism.

Now that we are in a severe depression, due to the slashing of prices, and uncertainty in markets, all of a sudden the free enterprise phase pops up, and says, "you wanted it back then, OK, we'll give it to you now."

If we could go back, sir, and reinvent the wheel, and go back to Day 1, I would say, yes, let's go with the free market system, and we'll take our wins and we'll take our losses, but we weren't given that opportunity. Now, we are trying to resurrect an industry that has taken a severe beating, and get back on the path that supplies energy to this country.

Mr. STARK. Mr. Miller, I don't know what kind of history they teach in Michigan schools, but I want to tell you that you ought to go back and review the history of the Texas Railroad Commission, if you don't think that the oil industry created their own regulation, basically to raise prices in those days, you have got another guess coming.

Oil regulation was not a product of the Congress, it was a product of the oil industry, and I would start with you. You want to go back to whenever that was in the early 1900's, and have a free market for oil, I will lead the charge, but it wasn't us, it was you guys, or your grandparents, who put regulation in as a way to raise the price to consumers, and just so history is straight, I may not have straight thinking, but I wanted to have the history straight.

Mr. MCCORMICK. I would like to make one comment.

Mr. STARK. Go ahead Mr. McCormick.

Mr. MCCORMICK. You made reference before to the fact that this is a technique that is developed and learned and that after that, the credit should go away.

I just want to point out——

Mr. STARK. That is if we are trying to stimulate a new technology which, I guess, in the case of shale, maybe we have been doing.

Mr. MCCORMICK. Right.

Mr. STARK. But at some point, it becomes a subsidy and not an incentive.

Mr. MCCORMICK. Well, I agree and I think that is the reason for the phaseout and I think that I just want to get clear that there is a difference between developing a technique for manufacturing a robot and the exploration for this coalbed.

We have a lot of these coal basins around the country; 20 or 30 of them, depending on how you want to count it, and some of them are close to being commercial and some of them are very far from being commercial and if we get an extension of 5 years or 10 years, permanent, whatever, those will all be explored.

Nobody really knows what the potential is. Any one of them might have a few trillion feet of gas, and it is not a matter of merely developing a technique. There is nothing tricky about drilling and producing coalbed wells.

It is that they need time to be explored like any exploration province, like you have heard from other people. This is an industry that needs a lot of lead time and if there is no extension of it, those basins will not be produced for many, they will not be explored for many, many years. And if it is just a 1-year extension they will not be explored either.

If they had a number of years to do the type of planning, infrastructure, pipelines, etc., I think the industry has a good chance, and that is all you can say, a good chance of developing lots of trillion feet of gas. And I do not think that anyone can question—you referred to a shortage; there is no shortage of oil in the world. It is just that we have got to buy it from someone else and there is a shortage of money to buy it; that is where the shortage is.

Mr. STARK. Thank you, very much.

I want to thank the panel for your participation.

Mr. GIBBONS [presiding]. What would the price of a barrel of oil have to be in order to develop the shale reserves in this country?

Mr. MCCORMICK. Well, that is a different matter.

I do not mean to be facetious but in looking at shale oil, the necessary price is always about $5 over the current price. When oil was $5, they said if it was $10, we would be home free.

And I am sure you all have heard this here and it is true, they have had a lot of attempts by very large companies, UNICAL, among others, and Rifle, CO, was a boom city 10 or 15 years ago and shale oil is a very tricky product to commercially produce, one of the problems being that it produces more residue when you get through grinding up the rock, you would fill up all the canyons in Colorado, I am told, but I am not qualified to talk about that.

Mr. GIBBONS. Well, I just wondered.

I was sitting on this committee in 1969 right over there, right next to George Bush and we got to talking about shale and at that time, you know the record is all printed and available and we had this same discussion about shale in a public hearing.

And I may be wrong in this, but I think I was told at that time, that if we could just get the price of a barrel of oil up 50 cents a

gallon, excuse me, 50 cents a barrel, that would be enough to bring in shale.

And a few years after that, it went to $35 a barrel and the shale still could not come out of the ground. I do not really think that you all know what you are talking about. You just want to make some more money.

Mr. MCCORMICK. No, I think there is a difference. It is important to distinguish.

Mr. GIBBONS. It is the same shale. You handed me a piece of shale. I remember Mr. Espanol, who was the chairman of that committee handed me a piece of shale and I rubbed it and got my fingers all oily from that and I remember it well.

Mr. MCCORMICK. Well, shale oil has been something that personally, I, of course have had nothing to do with and it has not been a commercial resource and I do not know anyone who has any idea at what price it might be.

But see that is a rock that has to be mined, whereas the Devonian shale that is part of the section 29 credit is an oil that is produced or gas that is produced just like a regular oil and gas well, it just happens to be in a very low productivity rock and it is not commercial without some kind of——

Mr. GIBBONS. Well, I want to tell you, one time the president of Exxon sat in my office over in 2161 and I do not remember his name, but I remember the shoes he had on, he had some cowboy boots on and I just cannot remember his name.

But at that time, oil was selling for $1.75 a barrel and he and I got to discussing all of the tax incentives and I said you know, what would it take the price of oil to get up to so that you could give up all of these incentives?

And he said, if I could just get it up 25 cents a barrel, Mr. Gibbons, it would take care of all of that.

That was about twice as much as the incentives were, so that I said, well, fine, and then it went to $35 a barrel and you know, it still needed incentives.

You know, this does not hang together. Maybe you all can hoodwink these fellows that have just been here a little while, but I have been here 28 years and I have heard this story over and over again, and it never seems to hit the top.

Mr. MILLER. There is a mechanism in place right now, under existing law and I believe in 1979 dollars it starts at $23.50 per barrel and runs to $29.50 per barrel and I do not know speaking from my IPAA's standpoint, we are not arguing whether that is good, bad, or indifferent. We are saying that was something that we supported then and we do support now.

So we are not looking to change any type of mechanism that is currently existing.

Mr. GIBBONS. Well, you gentlemen, I love you all, but you are just like me; I like the pay raise and you like your pay raise through the Tax Code. And I do not think that, you know, it probably has not improved my quality and I do not really think it has improved the amount of oil that you all get out of the ground or gas that you get out of the ground.

And you can make all kinds of logical explanations for it, but they do not work, gentlemen, they do not work. Let us let the marketplace work out there.

Mr. MCCORMICK. I think that specifically in the case of coalbed methene this credit has worked, and it has produced a trillion feet of gas that simply would not have been found and produced otherwise.

Now, overall credits, and overall——

Mr. GIBBONS. It is all a matter of price; is it not?

Mr. MCCORMICK. Oh, I think it is but I do not think that this particular resource coalbed methene would be produced at a price below $4 or $5 and I think if it does get up to that price, ever, I think it would be but it may be a long time until it does and this country is going to be in terrible shape by then.

Mr. GIBBONS. That reminds me of the argument that we can turn lead into gold if we just spend enough money on it and you know, I just unfortunately have been here long enough to learn that none of these things work in the long run; we have to pay for them. There is no free lunch, and if we may be paying for them through the tax system, or we may be paying for them through the price system, but one way or the other it is price that is going to control it and if we give you a lot of tax incentives, you could lower your price enough to get in the market and sell your product.

It is a subsidy, however, you look at it and I did not want to harass you all that much, but I just thought that maybe it would be a good idea to review a little history around here of what has happened in the whole system.

Thank you very much.

Mr. MCCORMICK. Thank you.

Mr. GIBBONS. Thank you very much.

I do not want to belittle you all, but every now and then I have to do a little preaching and speak my mind.

OK, let us go to the next group of gentlemen and ladies perhaps.

Mr. Thebeau, who is the tax director of Peabody Holding; and from the Clean Coal Coalition, Mr. Ben Yamagata; and the National Soft Drink Association, the Honorable William Ball; and the National Recycling Coalition, Dave Loveland.

STATEMENT OF GREG THEBEAU, DIRECTOR, TAXES, PEABODY HOLDING CO., INC.; ALSO ON BEHALF OF COAL INDUSTRY TAX COMMITTEE, AND NATIONAL COAL ASSOCIATION

Mr. THEBEAU. Thank you, Mr. Chairman.

Members of the committee and Mr. Chairman, my name is Greg Thebeau and I am the director of taxes for Peabody Holding Co.

Today I represent Peabody who, through its subsidiaries is the Nation's largest coal producer. I also represent the National Coal Association and the Coal Industry Tax Committee, which is a group of independent coal operators.

The committee press release regarding this hearing raised three questions I wish to address.

Are there coal tax subsidies that do not make environmental sense; are there SO_2 taxes that make sense; and do the expiring

credit provisions for coal-seam gas make sense from an environmental perspective?

First, we feel that there are no tax subsidies in the coal industry when you consider the overall burden. Like most industries we pay payroll taxes, sales taxes, workers' compensation taxes, real property taxes, personal property taxes, unemployment taxes and of course, income taxes.

But in the extractive industries we also pay some special taxes. We pay severance taxes, unmined mineral taxes and excess acreage taxes.

We also pay industry specific taxes that are often overlooked. We pay an abandoned mine land fee, we call it a tax, which is 35 cents a ton for surface coal and 15 cents a ton for underground coal.

The proceeds of this tax are used to reclaim old mine sites, whose original operators no longer exist or are otherwise unable to undertake their obligations.

This tax generates about $200 million a year. This tax is in addition to our obligations to reclaim our own properties.

We also have a black lung excise tax, or fee. This tax rate is a $1.10 for underground coal and 55 cents a ton for surface coal. The proceeds of this tax exceeds $600 million a year.

Its purpose is to provide special benefits to those who suffer from black lung disease and are retired from companies no longer in existence.

Similar to the abandoned mine land tax, current operators must pay the black lung tax in addition to being responsible for its own work force.

To summarize the scope of our taxes, it might be helpful to disclose to you the amount of taxes that a company like Peabody pays.

For Peabody in 1989, property tax, severance tax, black lung tax and abandoned mine land fees exceeded $150 million. Our taxes, exclusive of Federal income taxes, totaled nearly $230 million. Taking into consideration the full load of taxes we pay, our total taxes represented 71 percent of Peabody's before tax earnings in 1989.

Income taxes in our industry increased dramatically as a result of the 1986 Reform Act. In fact, with the alternative minimum tax structure, some companies can report book losses and still pay income taxes.

With regard to your second question, whether an SO_2 tax makes sense, some in Congress have expressed an interest in taxing utilities on all use of fossil fuel or taxing utilities on the amount of pollutants emitted. These taxes would have an adverse effect on the coal industry, adding additional cost to ratepayers and not meeting clean air objectives in the most efficient manner.

We feel the most efficient means of regulating clean air is through the regulatory process. The regulatory approach is superior to the tax approach for several reasons.

Regulations provide certainty both in the sense that the standard will be met and for business planning. Given regulatory guidelines, companies will seek the most efficient way to comply with the law. Taxes may unfairly distort energy markets. Let businesses compete to find the lowest cost in reducing emissions.

Also, many companies that have already paid to reduce air pollution could be asked via an emissions tax to contribute to companies that have delayed voluntary reductions. Clearly, this is not an appropriate reward for good past performance.

Let me note that sulfur dioxide reductions have taken place already. Sulfur dioxide emissions have declined 30 percent since 1977 while coal production has increased 80 percent. Also, pending acid rain legislation will reduce SO_2 emissions by 10 million tons by the year 2000 or 66 percent. Meeting this standard is burden enough.

Finally, regarding the third point, the alternative fuels credit for coal-seam methane is set to expire in 1990. We support the extension of this credit because the low price of ever-increasing quantities of imported oil does not provide the needed incentive to develop these alternative fuels. Absent the credits simple economies will cause companies to follow the current practice of venting this fuel which is a waste of a valuable resource.

Mr. Chairman and members of the committee, we do not believe that the coal is being currently subsidized by the Tax Code. Taking into account the full range of taxes, the coal industry is already overburdened. We believe that an SO_2 tax would add to the ratepayer burden and distort the efficiencies of the energy market. Finally, to decrease America's dependence on imported oil, the credit for coal-seam gas should be extended.

Thank you.

[The statement of Mr. Thebeau follows:]

TESTIMONY OF GREG THEBEAU
PEABODY HOLDING COMPANY, INC.

Mr. Chairman, members of the Committee, I am Greg Thebeau, Director of Taxation for Peabody Holding Company, Inc., which through its subsidiaries, including Peabody Coal Company, is the nation's largest coal producer. Today, I am also representing the National Coal Association and the Coal Industry Tax Committee, a group of independent coal producers reflecting different operating and organizational circumstances, but for all of whom coal production is their primary business.

The Committee press release for this hearing raised three questions I will address: (1) Are there coal tax subsidies that do not make environmental policy sense? (2) Would a tax on SO_2 or NOx or some other environmental tax make good environmental policy? (3) Should expiring provisions be extended?

BACKGROUND

First, I would like to set the stage by briefly outlining the condition of the U.S. coal industry. Blessed with more coal than all of the world has oil and gas reserves, the U. S. is the world's largest producer. Coal constitutes 85 percent of the nation's fossil fuel resources. We currently account for 56 percent of all electricity generation and provide 32 percent of all domestically produced energy. This year the industry expects to attain a production level of one billion tons with 10 percent of our production exported. On a worldwide basis, the United States has a larger share of the known coal reserves than Saudi Arabia has of known petroleum reserves. Despite this, net coal exports make only a $4 billion dent in the U. S. trade deficit.

Our abundance of coal and increased productivity have not brought great riches to our domestic industry. In real terms, coal prices have fallen 37 percent since 1980. The industry has survived because of productivity gains. This was the result of a good workforce, good management and heavy investment in modern machinery and techniques. I might add that even while production has increased, both employment and the number of companies involved in the industry have declined.

We operate in a highly competitive market both at home and abroad. Our export sales must compete with coal mined in Australia, Columbia, South Africa, Canada, and, to a degree, Poland. In all of these countries, government policies, including tax policies, are more favorable to the production of natural resources, and, in some cases, to coal production in particular. U.S. coal, especially metallurgical coal, is known to be of the highest quality found anywhere in the world, and we have the production capability to expand our exports significantly. As I will explain, the U. S. really provides no subsidy to the U. S. coal industry when you factor in all the tax rules and various types of taxes we pay. In fact, we are one of the most heavily taxed U. S. industries and are at a competitive disadvantage internationally because of it.

CURRENT TAX OBLIGATIONS

Like other businesses, coal companies pay taxes on income; we remit payroll taxes; we pay sales taxes on the purchases of goods; we pay Worker's Compensation and Unemployment Compensation taxes; and, like other extractive industries, we pay severance taxes, usually at very substantial rates, and unmined mineral taxes and/or excess acreage taxes to the states in which we operate. Also like other industries, we pay property taxes, but because of our highly capital intensive structure, we pay a very substantial amount of property taxes on both equipment and on the extensive land holdings we maintain as reserve inventory. A single piece of equipment, such as a dragline or shovel, can cost as much as $45 million. In order to sign long-term agreements to

finance such purchases, we must maintain large dedicated reserves involving thousands, even tens of thousands of acres of land.

During Congressional consideration of the 1986 Tax Reform Act, a study of the coal industry's income tax liabilities was commissioned. The study showed that Federal income taxes for the coal industry would increase by 48 percent as a result of the 1986 Act. Much of this increase was due to the changes in the alternative minimum tax (AMT). Because of marginal profitability, most coal companies are minimum taxpayers. The AMT, as I understand, was designed to assure that taxpayers who have significant income pay some fair share of the U. S. tax burden. It is unfortunate that it does not address the reverse situation. Many coal companies have substantial real loses yet pay significant amounts of Federal income tax. That is more than a fair share, and certainly no subsidy.

In addition to normal business taxes and high severance and property taxes, the coal industry pays some specific taxes which are often overlooked when the industry's tax structure is analyzed. Since 1977, the industry has paid an Abandoned Mined Land Tax, called a fee, of 35 cents per ton for surface mined coal and 15 cents per ton for underground coal. This amounts to a $200 million annual levy on the industry each year. The proceeds of this tax are used to reclaim old mine sites whose original operators are no longer in existence or otherwise unavailable to undertake the necessary reclamation. I might add that this "environmental tax" was recently extended by the House for another 15 years.

Another major specific tax imposed upon the industry is the Black Lung Excise Tax, a levy of $1.10 and $0.55 per ton of underground and surface-mined coal, respectively. Its purpose is to provide special benefits to coal miners identified as possible sufferers of black lung disease, or pneumoconiosis, and who are retired from companies no longer in existence. Thus it is a tax on companies to pay for someone else's former employee. Where a responsible former employer is identified, that employer provides benefits directly to the retiree. Proceeds of the tax now exceed $600 million per year.

For Peabody, the annual payments in 1989 for property taxes, severance taxes, AML fees, and the Black Lung tax -- taxes predominant to our industry -- amounted to more than $150 million combined. This amount exceeded our pre-income tax earnings in 1989. The total bill for taxes, exclusive of Federal income taxes, last year was nearly $230 million. Our aggregate tax burden, including Federal taxes exceeds 73 percent of what would otherwise be our pre-tax income.

For those coal companies which are signatory to the National Bituminous Coal Wage Agreement (NBCWA), there are also assessments to pay medical and pension benefits to retired miners whose former employers are either no longer in business or otherwise do not contribute such benefits directly. Payments for these mostly "orphan" retirees now amount to $2.96 for every hour worked by a current employee. This amounts to combined annual assessment of approximately $265 million for the signatory companies.

There is perhaps no other industry in the U.S. which assumes as much responsibility -- not only for its own employees, retirees and environmental activities such as land reclamation -- but also for the activities and responsibilities left by former companies no longer in existence.

ENVIRONMENTAL TAXES

Congress is now in the midst of considering amendments to the Clean Air Act, including acid rain controls. Also, much is

being said in the media about global climate change. There have been a number of suggestions about the imposition of taxes as a deterrent to various kinds of air pollution. While I do not pretend to be an expert on all of these environmental issues, we would like to comment on the implications of some of the more specific "pollution tax" proposals which have been voiced.

Some in Congress have expressed interest in a tax on coal, either by taxing electricity generation from fossil fuel generating stations or by taxing powerplant operators on the amount of air pollutants, primarily sulfur dioxide and oxides of nitrogen, emitted from their stacks.

We in the coal industry firmly oppose such air pollution taxes. We strongly believe that regulatory methods are far more appropriate than tax mechanisms for controlling air pollution.

In round numbers, utility powerplants produce about two-thirds of the sulfur dioxide emissions and one-third of the nitrogen oxide emissions in the U.S. Sulfur dioxide emissions have already been reduced in the country by some 30 percent since 1977, even while coal production has increased by approximately 80 percent. Pending acid rain controls are expected to reduce annual sulfur dioxide emissions by at least 10 million tons per year by 2000. This amounts to more than two-thirds of all utility emissions of sulfur dioxide and almost half of all U. S. emissions. The pending legislation will also require reductions in nitrogen oxide emissions from utilities.

Pollution tax mechanisms can distort energy markets, particularly in the utility sector, thus encouraging the public utility commissions to provide less efficient power to utility customers. While air pollution taxes may be enacted for purely environmental reasons, they generate revenues and can add to ratepayers bills regardless of whether the appropriate environmental goals have been met. Providing utilities the flexibility to meet Congressionally-mandated standards is the most efficient means of attaining two competing goals -- clean air and competitive energy rates in the U. S.

Perhaps the most important reason for avoiding the use of taxation as a means of controlling pollution is uncertainty. Air pollution standards are, by and large, health-based, with proposed acid rain legislation the most notable exception. National Ambient Air Quality Standards are established to limit concentrations of pollutants in the atmosphere. The degree of control required for emissions of these pollutants are all aimed at achieving acceptable concentration levels. There is a degree of certainty involved. Certain limitation on emissions in a given areas will achieve a certain level of concentration. Substituting a tax mechanism for regulatory limits on emissions will reduce certainty in the system. Some emitters may choose to pay the tax rather than reduce emissions; others may strive to avoid the tax. In either case, the behavioral reaction to pollution taxes cannot be predicted with certainty, and its effect on the attainment of health-based air quality standards is equally uncertain.

To the extent that Congress does decide to use the tax code for environmental aims, we believe the use of the code ought to be limited to the encouragement of innovative technologies to reduce pollution or promote the development and use of alternative fuels. Since coal is the dominant energy resource in the U. S., encouraging new technologies or clean coal-derived fuels will address both our environment and energy needs.

We would now like to address, in more specific terms, some of the pollution tax ideas which have been expressed. The Environmental Protection Agency (EPA) estimates that the cost of

meeting the proposed acid rain control provisions of the Clean Air Act Amendments now under consideration will be $4.5 billion annually. At this level, a tax on utility sulfur dioxide emissions would have to be at a rate exceeding $300 per ton to provide the same incentive. If, for example, such a tax were to be imposed on large, very clean powerplants in the West, electricity consumers served by those plants might strenuously object. Wyoming, which has perhaps the most stringent sulfur dioxide controls in the nation would still have to pay $300 million dollars a year in pollution taxes. If, on the other hand, such a tax were limited only to powerplants emitting at higher emission rates, perhaps only those emitting at rates greater than 1.2 lbs per million Btus, those utilities which are seeking cost-sharing would end up paying most of the cost anyway. We contend that it is very difficult or impossible to devise a direct tax on sulfur and nitrogen emissions which can be both fair and effective.

Before we leave the subject of taxes associated with the air pollution, I would like to mention the permit fee provisions in the Clean Air Act Amendments now pending before the Energy and Commerce Committee. The proposed permit fee in the legislation requires the payment of not less than $25 per ton of pollutant emitted. Based on current emission levels, coal burning utilities would pay an annual permit fee of more than $500 million for sulfur dioxide and nitrogen oxide emissions alone, with additional permit fees for particulate emissions. Industrial sources would pay an annual permit fee of more than $200 million, not counting permit fees for hazardous air pollutants.

We estimate that permit fees for all sources required to obtain permits under the proposed Clean Air Act Amendments would amount to more than $1 billion per year. We believe this amount far exceeds the amount needed to cover reasonable administrative costs of permitting and compliance, and it therefore constitutes a new tax.

In recent months there has been much discussion of the issue of global climate change, with some advocating major reductions of so-called "greenhouse gas" emissions. The principal greenhouse gases are identified as carbon dioxide, methane, non-methane hydrocarbons, and various forms of clorofluorocarbons or CFC's. Some have advocated a tax on carbon dioxide emissions as a means of discouraging the use of fossil fuels. We believe that such a carbon tax would be ill-advised for a number of reasons.

First, global climate change is, at this point, still a theoretical problem. Estimates of global warming are based on linear mathematical models which, as one scientist said, "constitute marvelous math, but less than perfect science". In fact, there are a number of competing theories, not only about the rate at which the earth's atmosphere may be warming, but about whether it is warming at all.

To the extent that the problem of global warming may exist, any policy actions to correct the situation must be global in scope. It would help not a whit to engage in an emission reduction strategy in the U. S. if the rest of the world would decline to go along. Hypothetically speaking, if we were to unilaterally close down every coal-fired powerplant in the U.S., we would reduce global greenhouse gas emissions by less than 3 percent. At current rates of growth, it would take the rest of the world less than two years to offset these reductions.

The International Energy Agency in Paris recently completed a study of the effects of a theoretical worldwide carbon tax of $50 per ton of coal. The study results indicate that carbon dioxide emissions would not be reduced, although the rate of growth in emissions would decline. More startling, however, is

the fact that, according to the study, such a tax would result in slower worldwide GNP growth to the extent of 1.5 percent per year.

SUMMARY

Mr. Chairman, members of the Committee, we believe that the current IRS code structure does not provide a subsidy for the coal industry. The U. S. coal industry pays more than its fair share of Federal taxes. Because of the nature of our business, we also pay unusually high amounts of state property and severance taxes to non-federal tax jurisdictions. Moreover, our industry, perhaps as no other industry, takes care of its responsibilities to society, including environmental responsibilities.

We remain opposed to new tax proposals designed to deal with pollution problems. As many members of Congress on the pertinent committee's are now learning, air pollution policy-making is extremely complicated. The consequences of such policies pervade much of our economy and have major implications for the energy sector. Nevertheless, using regulatory mechanisms to control pollution rather than tax mechanisms is far more comprehensible, predictable and less burdensome on U. S. ratepayers and U. S. competitiveness.

We also support the continuation of the Section 29 credit for producing fuel from non-conventional sources. Because of the current energy prices and our future energy needs, the credit for coal seam gas is still needed.

Mr. Chairman, this concludes my testimony. I would be happy to respond to any questions the Committee may have.

Mr. GIBBONS. Thank you, sir.
Mr. Yamagata.

STATEMENT OF BEN YAMAGATA, EXECUTIVE DIRECTOR, CLEAN COAL TECHNOLOGY COALITION

Mr. YAMAGATA. Thank you, Mr. Chairman.

I am Ben Yamagata, and I am here today in my capacity as executive director of the Clean Coal Technology Coalition, an ad hoc group of nearly 90 organizations. Our membership list is attached to my written statement.

The coalition is organized for the specific purpose of encouraging the accelerated demonstration and subsequent widespread commercial use of promising clean coal technologies.

I would like to focus my comments on the role that clean coal might play in the development of a sound national energy and environmental policy and conclude my remarks by recommending enactment of two tax incentives that would stimulate the early and widespread use of these technologies.

Nearly 57 percent of all electricity generated in the United States, Mr. Chairman, comes from coal. As our Nation's most plentiful energy resource, we have recoverable coal reserves to supply—at double today's rates of production—energy needs well into the 22d century.

Couple these coal reserves to our future energy needs: the Department of Energy has projected that the United States may require as much as 100,000 to 150,000 megawatts of new and replacement capacity between now and the end of the 1990's. Nearly one-third of this electric capacity growth is expected to be generated from coal.

While the need for coal in our energy future is evident, environmental concerns and pending legislation designed to reduce and control emissions from coal use have historically raised questions about the role of coal in meeting these future energy needs while maintaining environmental protection. Clean coal technologies, if successfully demonstrated and widely used, are the bridge between using coal to meet growing energy requirements while preserving and enhancing our environment.

Many of these technologies can achieve simultaneous reductions of sulfur dioxide and oxides of nitrogen. Conventional scrubbing technology can only remove SO_2 reductions. Several of the technologies are more efficient than current technology. And this increased efficiency decreases emissions of carbon dioxide, a suspected contributor to global warming. And as important for ratepayers, many developing technologies are capable of controlling emissions at lower capital, operating and maintenance costs than currently available emission control equipment.

The benefits of clean coal stretch far beyond our own domestic borders. Within the next 40 years, the world's population will double. And 90 percent of that growth will occur in less developed countries. Many of those less-developed countries have huge indigenous resources of coal. And that coal will be used to power those nations into the 21st century. The National Coal Council has estimated that by the year 2000, there will exist a $50 billion per year

export market for clean coal technologies. Obviously that opportunity to positively impact our own balance of trade is only available if the U.S. technological leadership is preserved, and pursuit of these new technologies is not stymied.

It is in this context, Mr. Chairman, with regard to our domestic energy needs, our environmental goals, and growing reliance on coal worldwide, that Congress must carefully consider the impact, for example, of the Clean Air Act legislation currently being debated in both Houses. Such legislation will have an impact on industry's ability to rapidly commercialize and use new clean coal technologies.

I would suggest that it is not realistic to expect the aggressive demonstration and early use of these new technologies, now in evidence by industry, if industry is also required to make specific and large reductions in sulfur dioxide and oxides of nitrogen within the next decade. Utility managers will be hard pressed to rationalize the expenditure and use of new and largely untried or unproven technology to meet reductions.

It is the face of these disincentives, and in the context of this testimony then that we support favorable tax incentives to be made available for a limited period of time to provide a mechanism for enhancing the prospects that industry will continue with accelerated development of these clean coal technologies even if acid deposition control legislation becomes law.

The coalition recommends that the Ways and Means Committee consider enacting a tax credit for investment in qualifying clean coal technology, and classification of clean coal technology property as qualifying 5-year property for purposes of cost recovery treatment.

That concludes my remarks on behalf of the coalition. Thank you for the opportunity to present these views.

[The statement of Mr. Yamagata follows:]

WRITTEN STATEMENT OF BEN YAMAGATA
ON BEHALF OF THE CLEAN COAL TECHNOLOGY COALITION
BEFORE THE
HOUSE COMMITTEE ON WAYS AND MEANS
MARCH 7, 1990

I. INTRODUCTION:

This written statement is submitted on behalf of the Clean Coal Technology Coalition which is an ad hoc group of electric utilities, equipment suppliers, coal companies, architect-engineering and construction firms, a host of state governments and universities, the National Coal Association, the Edison Electric Institute and the American Mining Congress. The Coalition, which has a total membership of 84, was organized in early 1985 for the specific purpose of encouraging the demonstration, deployment and widespread commercialization of clean coal technologies. (See: Attachment 1 for a complete listing of the membership of the Coalition.)

Clean coal technologies, if commercially incorporated, promise important national energy and environmental benefits. Any policy initiatives in the energy, environmental or tax arenas that could impact clean coal technologies, therefore, should be examined carefully to assure that such policies encourage -- rather than impede -- their development and commercialization.

This statement outlines the benefits of use of clean coal technologies and the adverse impact that acid rain control legislation currently pending may have on the development of these technologies. Further, the statement suggests possible tax incentives that could build upon the on-going $2.5 billion government and private industry effort (through the Department of Energy's clean coal program) to demonstrate and commercially deploy these technologies. Specifically, the following questions are addressed in this submittal:

1. What are clean coal technologies?

2. What are the energy and environmental policy benefits of developing and commercializing clean coal technologies?

3. How would enactment of an acid rain control program, as called for in pending Clean Air Act legislation impact the development of clean coal technologies?

4. How could federal tax policy help to assure that clean coal technologies are commercialized?

II. WHAT ARE CLEAN COAL TECHNOLOGIES?

Clean coal technology refers to a suite of emerging coal-based technologies that, if developed, offer significant potential for improvement over current means to generate energy or power from coal and to control or prevent emissions that result from using coal. These technologies are installed or utilized prior to the combustion of coal, during the combustion process, or after combustion has occurred. In addition, a number of the technologies actually convert the coal into another usable energy form such as a coal-derived gas or liquid.

Clean coal technologies are also grouped into two categories depending upon their purpose: (1) retrofit technologies, which can be applied at existing power plant units for the specific purpose of reducing emissions, and (2) repowering technologies, which replace a portion of an original unit in order to increase capacity and simultaneously reduce emissions. These same repowering technologies can be utilized in new, "greenfield" power plants to generate electricity and also to control emissions more efficiently and economically than current pulverized coal technology fitted with a wet limestone scrubber.

The importance of encouraging the development of clean coal technologies is three-fold:

First: Clean coal technologies offer a means by which to control emissions from the use of coal in an efficient and cost-effective manner.

Second: Clean coal technologies will enable utilities and others to continue to use coal to meet growing energy requirements in the 1990's and beyond.

Third: Clean coal technologies will be used by other countries to meet their growing energy requirements; successful development in the U.S. will mean significant new markets for export of American technology and know-how.

III. WHAT ARE THE ENERGY AND ENVIRONMENTAL BENEFITS OF DEVELOPING AND COMMERCIALIZING CLEAN COAL TECHNOLOGIES?

A. Projected Increases in U.S. Electric Demand and the Role of Coal in Meeting That Demand:

Coal currently supplies the fuel for more than one-half of the electricity generated in this country. Coal-burning power plants (including lignite) account for 43.5% of total operable capacity (as of year-end 1988) and over 56% of actual power generated. America's recoverable coal reserves, which the Department of Energy places at 268 billion tons, are sufficient -- at even double today's rates of production -- to last this century, the next century and a significant portion of the century to follow. The Energy Information Administration's (EIA) 1989 Annual Outlook for U.S. Electric Power, projects the need for 110 gigawatts of new capacity additions by electric utilities and 28 gigawatts of non-utility capacity additions by the year 2000. Fifty gigawatts of this new capacity, according to the EIA report, are expected to be fueled by coal. Without dispute, the U.S. has very significant supplies of coal to meet almost any level of increased demand. The challenge is whether, even in light of this domestic abundance, coal can be relied upon to meet projected demands for increased electrical energy while complying with stringent environmental requirements.

B. Limitations of Current Coal-Based Technologies:

The utility industry is faced with two realities about the technologies currently available to use coal and to control air emissions from the use of coal.

First, conventional pulverized coal units are the only available technology commercially proven for the generation of large amounts of electricity from coal. Because pulverized coal units depend upon economies of scale, they are relatively large units requiring long construction periods and large capital investments. This technology is near the end of its development potential.

Second, the utility industry has limited existing options to control SO2 emissions from coal use -- coal cleaning, conventional scrubbers and coal switching.

Each of these methods for controlling coal-derived air pollutants has disadvantages. For example, conventional coal cleaning has only a limited ability to remove sulfur, typically only 10 to 30 percent of the total sulfur in coal. Conventional scrubbers are costly and can only be retrofitted to an existing unit if sufficient space at the power plant site is available. In addition, conventional scrubbers use a portion of the electricity produced in the power plant to operate, thus lowering efficiency. Also, the typical flue gas desulfurization system today produces a wet waste product that requires a significant area for disposal. Coal switching could become costly if a significant shift to low sulfur coal occurs and the demand for such coal exceeds the supply. Use of lower sulfur coal in units originally designed for higher sulfur coals can also result in boiler derating whereby output is lowered, due to coal characteristics which do not meet or are in conflict with the

design specifications of a particular boiler. Also, unless designed for low sulfur coal use, the operation of electrostatic precipitators could be adversely affected and could create problems of particulate compliance.

The limitations with regard to the current means to control air pollutants are aggravated by the wide diversity of the nation's utility boiler population in terms of boiler designs, ages, sizes and configurations, as well as the type of coal consumed.

In the face of these realities, the electric utility industry must change its technological base for electricity generation derived from coal. New power generation options are required which can --

- o meet increasingly-stringent siting and environmental standards without sacrificing productivity;
- o be rapidly constructed in modular fashion while retaining acceptable economies over a wide range of unit sizes to better match uncertain demand growth; and,
- o utilize a variety of coals in a single design.

C. <u>The Role of Clean Coal Technologies in Making Coal More Environmentally and Economically Attractive:</u>

From the standpoint of cost effectiveness and ability to control emissions, clean coal technologies promise to be far superior to currently available methods of control.

Among the many technical and cost advantages of clean coal technologies are the following:

- o reduction of sulfur dioxide (SO2) emissions in a more cost effective manner than currently-available technology;
- o simultaneous reduction in some cases of both SO2 and NOx emissions (conventional scrubbers only reduce SO2 emissions);
- o attainment of required environmental control at lower capital and operating and maintenance costs than current technology;
- o utilization of the widest range of coals, from low to high sulfur coals;
- o modularity in some cases, which means units can be sized more closely to match load growth and can take advantage of the economies of shop assembly and pre-fabrications, thereby shortening construction time and cost;
- o cost savings of 10 to 20 percent depending upon plant-size for new applications when compared to conventional generation technology;
- o use of existing plants and plant sites in retrofit and repowering applications, thereby avoiding premature plant retirements or replacement with other fuels;

- o projected savings of 10 to 30 percent over conventional technologies when retrofitting existing facilities with clean coal retrofit technologies; and

- o increased efficiency in coal use which decreases emissions of CO_2, a greenhouse gas.

Furthermore, success in the development of these technologies may preserve American mining jobs, will better ensure U.S. industrial competitiveness, and could expand the trade of American coal and technological know-how.

D. Potential Domestic and Foreign Markets for Clean Coal Technologies:

According to the Department of Energy, halfway through this decade, more than one-half of the current population of boilers in the U.S. will be at least 30 years old; and, by the turn of the century, the percentage of aged boilers will rise even more sharply to about 44%. At the same time as noted above, there are projected dramatic increases in the demand for electricity in this country. The aging U.S. boiler population and the need for new capacity could create a huge domestic market for clean coal technologies since these technologies -- particularly the repowering technologies -- offer significant benefits over conventional technologies.

Furthermore, the National Coal Council, in its report entitled Innovative Clean Coal Technology Deployment (November 1988), estimated that the United States could become a dominant player in a world-wide clean coal technology market valued at $50 billion per year by 2000 and $70 billion per year by 2010.

The U.S. has historically been the world leader in coal technology. The majority of coal-fired power plants in the free world and in the developing countries have relied on technology supplied by, or licensed from, U.S. manufacturers. However, this technical leadership is increasingly challenged. The Japanese are the world leaders in the development of both combustion and post-combustion NOx control technology. The Europeans are leaders in fluidized bed technology. In other words, if our energy and environmental policies lose focus on the strategic importance of coal and the technologies for its use we also risk losing international markets potentially worth billions of dollars in trade. We may even risk the loss of domestic markets to foreign manufacturers who are rapidly gaining superiority and leadership in the development of many clean coal technologies.

IV. HOW WOULD ENACTMENT OF PENDING ACID RAIN LEGISLATION IMPACT THE DEVELOPMENT OF CLEAN COAL TECHNOLOGIES?

Clean Air Act legislation pending before the Congress includes an acid rain abatement program which would require emission reductions by certain dates. Enactment of this legislation will impede the use of new technologies unless such technologies are available and commercially proven in time to plan for, and then to meet, the compliance deadlines.

Only after successful demonstration and deployment will a particular clean coal technology be considered an option for achieving reductions of atmospheric pollutants; even then, successful demonstration and deployment does not mean that the technology will be immediately and widely incorporated into the nation's electric generation base, thereby achieving significant reductions. The utility industry -- each utility -- will proceed very carefully when applying a new technology. This means that for any given utility, a successfully-demonstrated clean coal technology will be applied first to one unit and then another before being incorporated into an entire system. This market penetration scenario will be replicated many times over throughout the entire utility industry.

After achieving commercial maturity, introduction of clean coal technologies into the entire generation base could easily take a decade or more. Among those factors which will govern the time necessary for introduction are: time to evaluate the technology's performance and to decide to use it on additional units; time to site such projects; time to complete permitting and regulatory approvals, including approvals by utility rate regulatory agencies; and, time to place orders and receive equipment from manufacturers of the clean coal technology.

It should be noted that industry will require most of the 1990's to demonstrate, deploy and bring to commercial readiness clean coal technologies. This estimate does not factor in the disincentives to demonstrating new technologies if industry must also plan and execute programs to meet reduction requirements at the same time.

Unless adequate time and flexibility in compliance are provided in control legislation, a utility will probably comply with mandated reduction requirements by switching fuel sources, shutting down power plants prematurely or retrofitting conventional scrubbers. Emerging clean coal technologies, given current levels of development and associated risks, will be a very limited option.

Not only will clean coal technologies be of limited use in meeting reduction requirements, but also the on-going clean coal technology demonstration program to which Congress will have appropriated more than $2.5 billion may be jeopardized. It is doubtful that industry would use limited resources to cost-share in the demonstration of new technologies when faced concurrently with requirements for massive emission reductions. (Participants in the on-going DOE clean coal program are required to provide at least fifty percent of the costs of a clean coal demonstration.)

V. HOW COULD FEDERAL TAX POLICY HELP TO ASSURE THAT CLEAN COAL TECHNOLOGIES ARE COMMERCIALIZED, EVEN IN THE CONTEXT OF AN ACID RAIN CONTROL PROGRAM?

Utilities will be reluctant to assume the risks associated with the use of new clean coal technologies in light of the need to guarantee reliability of service and to meet new air emission requirements that may be mandated by pending acid rain control legislation. If the control program under consideration is as costly and disruptive as some have asserted, it is possible that some of the technologies will not be developed at all.

Favorable federal tax incentives are one mechanism which could greatly enhance the prospects that industry will continue with accelerated development of clean coal technologies, even if acid deposition control legislation is enacted. Importantly, such tax incentives would complement the on-going DOE clean coal technology demonstration program. It is hoped that the DOE program will result in several projects demonstrating a particular clean coal technology. Assuming success with the DOE program, tax incentives could operate to encourage wide-spread introduction of the best technologies into the marketplace.

While a number of tax-related incentives may be appropriate to encourage industry's use of these new technologies, the Coalition recommends that the Ways and Means Committee consider:

1. enactment of a tax credit for investment in qualifying clean coal technology, and

2. classification of clean coal technology property as qualifying for 5-year cost recovery treatment.

A tax credit for clean coal property which achieves certain pollution control requirements would be consistent with energy tax credits currently provided to qualifying renewable energy property. In addition, classification for 5-year cost recovery treatment would also be consistent with the current treatment afforded certain renewable energy property.

VI. CONCLUSION:

Coal can and should play an integral role in helping the Nation to meet the expected growth in electric demand between now and the end of the century. But, to the extent that control legislation will increase the costs associated with using coal to meet these anticipated new capacity requirements, and to the extent that the legislation severely impedes the utility industry's ability to develop and use clean coal technologies (which offer a means of utilizing coal more cost-effectively and more cleanly); the energy policy implications are dire.

Further, the costs to the country, in terms of lost industrial competitiveness due to an energy policy that doesn't facilitate coal use, are ominous. According to the National Coal Association (NCA), industries in the mid-west and the south -- the regions of the country projected to have the largest increases in electric rates if control legislation is enacted -- account for fully 25% of our Nation's export activity. This increase in rates would translate into lost manufacturing jobs, and the NCA projects that energy intensive industries, such as aluminum, would move off shore and be permanently lost.

To the extent that the provisions of proposed control legislation do not adequately encourage -- and indeed tend to negate -- the development of clean coal technologies, the government must look at alternative means, such as through our federal tax policy, to assure that these technologies are developed.

New tax policies that will encourage the commercialization of these technologies are an important means by which to assure that these technologies will be developed.

CLEAN COAL TECHNOLOGY COALITION

MEMBERSHIP

February 22, 1990

A.T. Massey Coal Company, Inc.
Alabama Coal Association
Allison Gas Turbine Division, General Motors Corporation
AMAX Coal Company
American Electric Power Service Corporation
American Mining Congress
Arch Mineral Corporation
Asea Brown Boveri, Inc.
Ashland Coal, Inc.
Babcock & Wilcox
Baltimore Gas & Electric Company
Bechtel Power Corporation
Bethlehem Steel Corporation
Brigham Young University
Carbon Fuels Corporation
Carolina Power & Light Company
Centerior Energy
Central Illinois Public Service Company
Cincinnati Gas & Electric Company
Combustion Power
Consolidation Coal Company
Cyprus Coal Company
Deutsche Babcock Werke, AG
Duke Power Company
Edison Electric Institute
Fluor Corporation
General Electric Company
General Public Utilities, Inc.
Geneva Steel
Illinois Power Company
Indiana University
Indianapolis Power & Light
Jersey Central Power & Light Company
Madison Gas and Electric Company
Marietta Coal Co.
Metropolitan Edison Company
MHD Development Corporation
MK-Ferguson
Montana State University
National Coal Association
National Lime Association
NEOS Corporation
Northern Indiana Public Service Co. (NIPSCO)
Ohio Edison
Ohio Mining and Reclamation Association
Ohio Clean Fuels, Inc.
Oklahoma Gas & Electric Company
Orange and Rockland Utilities, Inc.
Passamaquoddy Technology
Peabody Holding Company, Inc.
Pennsylvania Electric Company
Pennsylvania Power & Light Company
Pittsburg & Midway Coal Mining Co.
Public Service Company of Colorado
Public Service Company of Indiana
San Diego Gas & Electric
Sargent & Lundy Engineers
South East Coal Company
Southern Company Services
Southern Illinois University at Carbondale
Southern Indiana Gas & Electric Company
Stone & Webster Engineering Corporation
Texaco, Inc.
The Commonwealth of Kentucky
The State of Alabama
The State of Colorado
The State of Illinois
The State of Indiana

The State of Ohio
The State of Texas
The State of West Virginia
TransAlta Utilities Corporation
Union Electric Company
United Coal Company
School of Mines and Energy Development, University of Alabama
University of Missouri-Columbia
University of Montana
University of Southern Indiana
University of Tennessee
University of Wyoming
Western Research Institute
West Virginia University
Wisconsin Power & Light Company
Wisconsin Public Service Corporation

Mr. GIBBONS. All right, sir. Thank you very much.
Mr. Ball.

STATEMENT OF HON. WILLIAM L. BALL III, PRESIDENT, NATIONAL SOFT DRINK ASSOCIATION, ACCOMPANIED BY WILLIAM BRACK, COUNSEL

Mr. BALL. Thank you, Mr. Chairman.

I appreciate the opportunity to appear today. I am here representing the National Soft Drink Association, which is the trade association that represents some 850 manufacturers of soft drinks in the United States.

I would like to just summarize my testimony by saying that we as an industry have had our oar in the water on the solid waste problem for some 25 years. We have worked hard to support the efforts State and local governments and the Federal Government in developing solutions to our solid waste problem. Now, I wanted to say just briefly what we are for and what we are not for.

We are for programs that can assist us in solving solid waste problems on a comprehensive basis. We firmly believe that all costs of solid waste management should be taken into account when deciding what programs and policies will work. We believe all elements of the solid waste stream should participate and assist in solving solid waste problems. And that leads us to addressing ourselves to a number of programs that are in existence in States today that are not comprehensive and are not broadly based and that discriminate among various components of the solid waste stream.

We have worked hard to put everyone on an equal footing. And my purpose here today is just to say that we would support efforts on the part of the Congress in its review of legislation pending before this committee to broaden the participation of all elements of the solid waste stream in solving our solid waste problems.

We have testified on the matter of Mr. Lukens' pending bill that is before this committee, and our comments on that legislation have been that it is headed in the right direction. But we do believe it is too narrowly focused at this juncture.

Packaging is one part of the solid waste stream, but it is just that—only one part. We believe that such approaches must be broadened and made comprehensive if they are to work.

Mr. Chairman, with your consent, I would submit my full statement for inclusion in the record.

[The statement of Mr. Ball follows:]

STATEMENT OF THE NATIONAL SOFT DRINK ASSOCIATION
MARCH 7, 1990

Mr. Chairman, Members of the Committee, my name is William L. Ball, III. I am President of the National Soft Drink Association (NSDA), the major trade association representing the United States soft drink industry. NSDA is comprised of approximately 850 soft drink manufacturers accounting for 90 percent of annual U.S. soft drink production. I would like to thank the Committee for providing NSDA the opportunity to offer our thoughts on ways in which federal tax policies can serve to improve the environment, and in particular, government support for sound and comprehensive solid waste management.

The National Soft Drink Association has fully supported the reauthorization of the Resource Conservation and Recovery Act (RCRA) and has already testified before the Subcommittee on Transportation & Hazardous materials last July on the need for a comprehensive approach to solid waste management. It is our conclusion the most important issue in developing a successful solid waste management strategy is how to finance a better approach, which to date has been the least discussed issue. I commend the Chairman and the Committee for your leadership addressing this key issue and providing a forum for the much needed public discussion.

Generation of solid waste in America is a result of a growing population enjoying unparalleled levels of personal consumption provided by a free market economy. Today there is a serious national concern for the disposition of such waste in a way neither harmful to the natural environment nor injurious to the economic system which accounts for the nation's standard of living.

Although soft drink packaging is a very small part of the waste stream, the soft drink industry believes its members, as responsible corporate citizens, should be actively involved in solutions to waste disposal problems. This industry did not come lately to this position; we have been on the forefront of source reduction and recycling for more than 25 years. Because waste generation broadly mirrors the product use and consumption pattern of society at large, the economic cost of solid waste disposal practices should be shared by the public and the business communities in a fair and equitable manner.

NSDA supports the principal of accounting for the true cost of waste management systems. These costs include collection and disposal of waste, processing and marketing of recyclables, landfill closing, construction, and long-term monitoring, composting, incineration with energy recovery, and public education. The soft drink industry further supports "life cycle costing" as a broad and fundamental principal that should be applied to all consumer products from development through distribution, collection, recycling, and/or disposal. Funds obtained through waste management/recycling taxes, fees, or surcharges, should be directed entirely toward furthering the development of such methods of solid waste management as source reduction, recycling, energy recovered combustion, and sanitary landfills. Revenues to support general waste management should come from all those contributing to the waste stream.

Currently pending before this Committee is H.R. 3737, the funding mechanism for Representative Luken's RCRA reauthorization legislation. This bill would set a $7.50/ton fee, phased in over three years, on the use of virgin materials in a variety of products, including plastic, paper, batteries, and packaging material. An estimated $300 million in annual revenues would be put in a trust fund to assist states in hazardous and solid waste management activities.

While NSDA believes this bill is aimed in the right direction, we would suggest it is too narrow in terms of its focus on packaging only and may not produce the broad solutions we all seek. Packaging represents less than one-third of solid waste produced in the home. In principle, any materials or products that enter the solid waste stream should bear some measure of the

costs of management and disposal. In addition, it is our belief that the start-up costs states will encounter developing comprehensive solid waste management infrastructures are far in excess of $300 million.

Mr. Chairman, there have been many attempts to address the true costs of managing solid waste in a comprehensive manner. Experts in our own industry have been exploring ideas that would internalize the disposal costs of all virgin materials introduced into the economy. Such proposals go beyond the scope of H.R. 3737 and are based on the premise that no product which is a part of the solid waste stream can be excluded from an assessment of some portion of solid waste management costs.

While the National Soft Drink Association has not endorsed any particular national plan at this point in time, our industry leaders are in agreement as to the basic criteria that should guide responsible legislation in this area.

They include: (1) all materials should be included in any national solid waste management program; (2) materials should not be individually targeted for special, punitive treatment; and (3) while states and municipalities should have the flexibility of designing programs based on their particular solid waste needs, these programs should not inhibit interstate commerce.

The efficiencies and the accounting for how this could best be accomplished would have to be thoroughly investigated by the Committee. The magnitude of our national problem with the disposal of solid waste, however, will require Congress and private industry to work together in creative ways to ensure an effective and efficient use of tax dollars.

In conclusion, the soft drink industry believes to solve municipal solid waste problems, cooperative planning is essential between the public and private sectors. Government agencies, businesses, consumers, and environmental organizations each have unique perspectives and responsibilities. Our industry has been and will continue to be actively involved in seeking to reach ambitious recycling goals. For example, the soft drink industry was a peer review member for EPA's recent Agenda for Action and contributed to the Office of Technology Assessment's 1989 study on MSW. Our industry encouraged governmental support in the areas of education, promotion, and the development of markets for secondary materials.

The soft drink industry further offers our assistance to Congress to help shape laws which will bring about a new level of recycling awareness and participation in this country. While our packages are only a fraction of municipal solid waste, our members want to continue supporting comprehensive recycling programs which will be funded in a fair and equitable manner.

We believe that the Resource Conservation and Recovery Act should incorporate the principles of recycling goals, education, market promotion, fair and equitable funding, and participation for all municipal solid waste segments. Our commitment is straightforward: the soft drink industry will work with local, state, and federal jurisdictions to meet the solid waste challenges facing our country. Thank you.

Mr. GIBBONS. Yes, sir. Without objection, your statement and all other statements will be included.

Mr. Loveland.

STATEMENT OF DAVID GRAY LOVELAND, EXECUTIVE DIRECTOR, NATIONAL RECYCLING COALITION

Mr. LOVELAND. Thank you.

My name is David Loveland. I am the executive director of the National Recycling Coalition.

The Coalition is a nationwide, nonprofit organization representing nearly 3,000 members involved in all aspects of recycling business, nonprofit organizations, Government, and individuals. The coalition was formed in 1978 and is the only broad-based, national group dedicated to supporting recycling.

The coalition is dedicated to the use of recycling and waste reduction to help protect the environment, to conserve resources and energy, and to achieve social and economic development. We believe that more recycling will benefit the environment, and we would therefore like to direct our comments today to ways in which the tax law changes may either directly encourage more recycling or at the very least remove subsidies which will encourage the use of virgin materials and thus indirectly prevent more recycling.

Historically it is of course clear that the U.S. tax policy has encouraged use of virgin materials at the expense of waste materials in line with an overall policy of national development. It is commonly acknowledged that these policies are largely outdated now and have lead to excessive pollution and resource depletion. Many of these tax subsidies for virgin material production have been repealed, but we would note that the Office of Technology Assessment report entitled "Facing America's Trash," which was produced in 1989 found that the Tax Code still provided a subsidy of approximately $1 billion annually to virgin material users.

The coalition would therefore recommend that as an initial step in its work the committee investigate those Tax Code provisions cited by the OTA and propose legislation to eliminate them for the future, finally placing recyclers and virgin material users on a level playing field.

The second step which we would recommend to the committee is to evaluate all pending tax law amendment proposals in light of their effect on the environment and recycling specifically. Some major pending proposals would undoubtedly have a significant adverse effect on recycling in the present form, for example, the timber production industry, which already benefits from tax preferences which have been valued at approximately $500 million during fiscal year 1990 but also would be a substantial beneficiary from proposals to cut the current capital gains tax rate.

This information is based on an internal memo from the Congressional Research Service dated September 15, 1989. And we can supply you with a copy if you desire.

The coalition is not able to comment on the overall wisdom or unwisdom of cutting the Nation's capital gains tax rate. But it would certainly appear that from the perspective of recycling not

only should the existing tax subsidies to the timber production industry be removed from the Tax Code, but that that industry should be exempted from any increased subsidy due to the capital gains tax rate cut, or in the alternative, subsidies worth an equivalent sum should be provided through the Tax Code to the paper recycling industry.

We would also like to propose several areas for the committee to investigate to carry out its task. The coalition has not thus far taken a position on these proposals, but it believe that they may well hold promise if properly implemented for increasing recycling and thus helping to reduce the staggering cost burden faced by many States and localities as they try to manage and dispose of their solid waste.

While most of these proposals would result in foregone tax revenues to the Federal Government, they might well be revenue neutral overall because of the savings in waste disposal costs, which they would generate at the state and local levels of government. We would definitely recommend that the committee not automatically reject proposals which would cause a decrease in tax revenues so long as that decrease would be made up by equivalent savings in other Government costs such as the cost of waste disposal.

Among the proposals which we believe merit the committee's consideration are the following:

A tax on the use of virgin materials. One form of such a tax is contained in proposals presently pending before Congress in connection with the reauthorization of the Resource Conservation and Recovery Act.

Many difficulties exist with such a proposal, not the least of which is determining the basis on which such a tax should be levied. Reliance on material weight, for example, could encourage the use of lighter, but not necessarily more environmentally desirable or recyclable materials at the expense of heavier, but more easily recycled materials.

Nevertheless, this concept or that of a value-based approach should be looked at as a way to increase use of waste materials and thus decrease our massive solid waste burden.

The investment tax credit, the recycling industry for a very long time enjoyed an investment tax credit on certain forms of capital equipment. This proposal should at least be reconsidered now as a way of encouraging greater waste material use since the major difficulty facing most recycling industries is the need to modernize and expand through extensive capital investment.

And the final point—I see the red light is on—is tax credits and other incentives for a new application of waste materials here. And what we would like to suggest is that one method of encouraging this process is tax subsidies for research and development costs and/or tax credits for the use of secondary materials or purchase of products containing these materials.

Thank you. And we look forward to working with you on achieving greater recycling.

[The statement of Mr. Loveland follows:]

STATEMENT OF

DAVID GRAY LOVELAND

EXECUTIVE DIRECTOR

NATIONAL RECYCLING COALITION

My name is David Loveland. I am the Executive Director of the National Recycling Coalition. The Coalition is a nation-wide, non-profit organization, representing nearly 3,000 members involved in all aspects of recycling: business, non-profit organizations, government and individuals. The Coalition was formed in 1978 and is the only broad-based national group dedicated to supporting recycling. The Coalition is dedicated to the use of recycling and waste reduction to help protect the environment, to conserve resources and energy, and to achieve social and economic development. We are grateful to the Committee for its invitation to the Coalition to express the Coalition's views on ways in which the tax code can be used to benefit the environment. We believe that more recycling will benefit the environment and we would therefore like to direct our comments today to ways in which tax law changes may either directly encourage more recycling, or at the very least, remove subsidies which will encourage the use of virgin materials, and thus indirectly prevent greater recycling.

Historically, it is of course clear that the United States' tax policy has encouraged use of virgin material at the expense of waste materials in line with an overall policy of national development. It is commonly acknowledged that these policies are largely outdated and have led to excessive pollution and resource depletion. Many of these tax subsidies for virgin material production have been repealed, but we would note that the Office of Technology Assessment report, entitled "Facing America's Trash" (1989), found that the tax code still provided a subsidy of approximately one billion dollars annually to virgin material users. I have a copy of one of the charts from this report, which highlights this point, and which you may want to include in the record. The Coalition would therefore recommend that as an initial step in its work, this Committee investigate those tax code provisions cited by the OTA and propose legislation to eliminate them for the future, finally placing recyclers and virgin material users on a level playing field.

A second step which we would recommend to the Committee is to evaluate all pending tax law amendment proposals in light of their effect on the environment and recycling specifically. Some major pending proposals would undoubtedly have a significant adverse effect on recycling in their present form. For example, the timber production industry, which already benefits from tax preferences which have been valued at approximately five hundred million dollars during fiscal year 1990, would also be a substantial beneficiary from proposals to cut the capital gains tax rate. This information is based on a memorandum from the Congressional Research Service, dated September 15, 1989. The Coalition is not able to comment on the overall wisdom or unwisdom of cutting the nation's capital gains tax rate, but it would certainly appear that from the perspective of recycling not only should the existing tax subsidies to the timber production industry be removed from the tax code, but that industry should be exempted from any increased subsidy due to the capital gains tax rate cut. Or in the alternative, subsidies worth an equivalent sum should be provided through the tax code to the paper recycling industry.

We would also like to propose several areas for the committee to investigate as it carries out its task. The Coalition has not thus far taken a position on these proposals, but it believes that they may well hold promise if properly implemented for increasing recycling, and thus helping to reduce the staggering cost burden faced by many states and localities throughout the country in managing and disposing of their solid waste. While most of these proposals would result in foregone tax revenues to the federal government, they might well

be revenue neutral overall, because of the savings in waste disposal costs which they would generate at the state and local levels of government. We would definitely recommend that the committee not automatically reject proposals which would cause a decrease in tax revenues so long as that decrease would be made up by equivalent savings in other governmental costs such as the costs of waste disposal. Among the proposals which we believe merit the Committee's consideration are the following:

1. **A tax on the use of virgin materials.** One form of such a tax is contained in proposals presently pending before the congress in connection with the reauthorization of the Resource Conservation and Recovery Act. Many difficulties exist with such a proposal, not the least of which is determining the basis on which such a tax should be levied. Reliance on material weight, for example, could encourage the use of lighter but not necessarily more environmentally desireable or recyclable materials at the expense of heavier but more easily recycled ones. Nevertheless, this concept or that of a value-based approach should be looked at as a way to increase use of waste materials and thus decrease our massive solid waste burden.

2. **Investment tax credit.** The recycling industry for a time enjoyed an investment tax credit on certain forms of capital equipment. This proposal should at least be reconsidered now as a way of encouraging greater waste material use, since the major difficulty facing most recycling industries is the need to modernize and expand through extensive capital investment.

3. **Tax credits and other incentives for new applications for waste materials.** In addition to the need for new capital investment in existing recycling industries there is a need to identify new uses for waste materials and to develop industries to take advantage of these new uses. One method of encouraging this process which deserves investigation is tax subsidies for research and development costs and initial capital investments associated with these new applications or tax credits for use of secondary materials, or purchase of products containing those materials. The obverse of a proposal to tax virgin materials is one which would grant tax benefits to users of waste materials, or to purchasers of products containing those materials. These tax benefits deserve investigation as either an alternative to a virgin materials tax, or a supplement to it.

We thank the Committee for this opportunity to present the views of the National Recycling Coalition on the important question of how the tax code may be used to benefit recycling, and look forward to working with you in the coming months to ensure that this country achieves the full potential for environmental and economic benefits which an increase in recycling can make possible.

Mr. GIBBONS. Thank you, all of you.

Mr. CARDIN. Mr. Loveland, let me just follow up on some of your comments.

I want to first thank the entire panel for their contributions to this hearing.

I think you make a very valid point about encouraging recycling versus the use of virgin material. I agree that we have a dual problem; we give subsidies currently in law the use of virgin material while we should be encouraging recycling through a tax on virgin material or a tax incentive.

You mentioned the billion dollar subsidy that is currently offered to virgin material.

Mr. LOVELAND. This is in a chart of a copy from the OTA report which was produced last year.

Mr. CARDIN. And half of that or $500 million is in timber. Is that correct?

Mr. LOVELAND. For timber itself it looks as though there is $474 million.

Mr. CARDIN. What is in second place?

Mr. LOVELAND. Second place we have got minerals at $330 million, and energy $446. So it really is over $1 billion.

Mr. CARDIN. Over $1 billion. Do you have any specific suggestions as far as a tax on virgin material or using the Tax Code to discourage the use of virgin material?

Mr. LOVELAND. I myself am not a tax expert. And thus we are working right now to set up what is the National Recycling Advisory Council that will be studying these issues. It includes representatives from the environmental community, recycling industry, other businesses and industries, and the public sector. The first meeting will be here in Washington on April 24. We are expecting the tax issues to be one of the key things that comes out. We hope that we will have some concepts and recommendations to propose to you at that time.

Mr. CARDIN. Could I ask that the chart that you referred to be made a part of our record.

Mr. LOVELAND. Yes, I would like to include that.

Mr. CARDIN. Thank you.

[The following was subsequently received:]

Table 5-9—Estimated Costs for Special Tax Treatment for Virgin Materials Production, Fiscal Years 1980 to 1989[a] (millions of dollars)

	FY80	FY81	FY82	FY83	FY84	FY85	FY86	FY87	FY88[b]	FY89[b]
Natural resources and environment:										
Expensing of exploration and development costs, nonfuel minerals	27	31	30	62	65	85	88	35	34	37
Excess of percentage over cost depletion, nonfuel minerals	493	506	466	531	589	493	500	410	318	293
Capital gains treatment of iron ore	27	25	24	45	44	32	31	10	—	—
Subtotal—minerals	548	563	519	638	698	610	618	455	352	330
Capital gains treatment of timber income	740	756	808	831	997	610	690	290	10	—
Expensing of multi-period timber growing costs	—	—	—	—	—	—	—	130	256	279
Investment credit and seven-year amortization for reforestation expenditures	—	—	12	34	49	53	57	210	203	195
Subtotal—timber	740	756	820	864	1,046	663	747	630	468	474
Total—minerals and timber	1,288	1,319	1,339	1,503	1,744	1,272	1,365	1,085	820	804
Energy:										
Expensing of exploration and development costs for oil and gas	2,980	3,419	3,428	2,639	1,978	519	639	(675)	(400)	(172)
Excess of percentage over cost depletion for oil and gas	2,041	2,656	2,667	1,944	1,771	1,659	1,936	1,030	743	618
Total—energy	5,021	6,075	6,095	4,582	3,750	2,178	2,575	355	343	446

NOTE: The corporate and individual tax categories have been combined for all years to give a total. In the energy category, the individual benefits dominate substantially; in FY85, 86, 87, 88, and 89 the corporate benefit is negative for expensing of exploration and development costs.

[a]Presented in constant dollars using an implicit price deflator with 1987 as the basis.

[b]To bring these values to constant 1987 dollars, implicit price deflators were projected for each based on the historical trend.

SOURCE: Franklin Associates, Ltd., "*Economic Incentives and Disincentives for Recycling of Municipal Solid Waste*" contract prepared for U.S. Congress, Office of Technology Assessment (Prairie Village, KS: December 1988); U.S. Office of Management and Budget, *Budget of the United States Government* (Washington, DC: U.S. Government Printing Office, individual budgets for fiscal years 1982 through 1989).

Mr. CARDIN. Mr. Ball, what could we do to encourage more recycling in your industry?

Mr. BALL. Well, in the soft drink industry, we are already to the point of recycling over 50 percent, as some testimony indicated earlier today, 50 percent of aluminum cans that are used in packaging of soft drinks.

Our industry is studying other proposals that would address your question. One of the proposals that we are reviewing is a tax on the use of virgin materials or an advance disposal fee that has been put forward by one of our members. We have not yet arrived at an industry position on that issue.

Obviously if the true cost of disposal of any element of the solid waste stream is incorporated into the cost of that material, that in itself will provide enormous economic incentive for the use of recycled materials, in packaging or in other industries.

Our industry is already one that uses enormous amounts of recycled materials in its packaging based on the economics that prevail at this time. We are looking at ways in which the Government could further that. And, as I have said, we are examining that proposal.

Mr. CARDIN. When you reach conclusions, I would very much like them to be available to us.

Thank you, Mr. Chairman.

Mr. GIBBONS. Thank all of you for your contributions to this discussion.

Thank you very much.

Next Mr. Sklar, Mr. Tindall, and Mr. Lipman.

All right, the Solar Energy Industries Association first please, Mr. Sklar.

STATEMENT OF SCOTT SKLAR, EXECUTIVE DIRECTOR, SOLAR ENERGY INDUSTRIES ASSOCIATION

Mr. SKLAR. Thank you, Congressman Gibbons.

I represent the Solar Energy Industries Association. We are the national trade organization of both the photovoltaic, the solar electric cell, and solar thermal manufacturers and component suppliers. And obviously we do want an extension of the solar energy credits that are due to expire in September.

Because these are environmental hearings, we wanted to make the case that we represent a series of technologies that are the cleanest, safest technologies around. We think the committee ought to have a sense that the way to bring these technologies to the marketplace is to provide incentives to encourage marginally cost-effective technologies to be adopted by the market in a way that the private sector and the private marketplace can respond.

The solar steam set of industries have two market sectors that are making inroads in the marketplace today. The solar steam technologies now provide 300 megawatts of solar electric power in the United States.

And as Congressman Thomas from California, would know, here we have these 300 megawatts of solar steamplants, these steamplants were put on line due to these credits. These are cost-effective credits. They have attracted institutional investors, insurance

companies, and utility companies. The LUZ plants are not the only steam technology in the marketplace. And there are about 15 different manufacturers and component suppliers that make solar steam technology. By 1992, Cummings and Westinghouse will be bringing on a second generation kind of technology using dish/engine technology. And this technology will even be lower in cost but also need the risk bought down in terms of using tax incentives.

The other kind of solar technology—I picked this one from the State of Florida obviously for Mr. Gibbons—is the solar hot water technology. This is older technology as shown here on top of McDonnell's.

But the fact of the matter is that solar hot water technology and new generations of it are coming into the commercial sector. When the residential market folded, the commercial market is picking up. And the fact of the matter is, sales in the marketplace have increased about 15 percent. Comparative to solar steam technology, it has been up about 100 percent.

Mr. GIBBONS. Let me interrupt you——

Mr. SKLAR. Sure.

Mr. GIBBONS [continuing]. And tell you about solar hot water heater technology.

Mr. SKLAR. Yes, sir.

Mr. GIBBONS. It was coming on real strong in the 1930's in Florida.

Mr. SKLAR. It was.

Mr. GIBBONS. And suddenly somebody in the electric company found out about that because it was replacing all their electric hot water heaters. And so they went to the Public Utility Commission and got permission to sell electricity to hot water heaters at just nothing.

Well, who the heck is going to buy an expensive solar heater when they can get all the electricity they want for practically nothing?

Mr. SKLAR. That is right.

Mr. GIBBONS. But when they knocked all the solar heaters out of business and got rid of all those people, they suddenly went back to the same utility commission and said, you know, we cannot do that, that is terrible, we are discriminating against other consumers who are not heating their water by hot water heaters.

So all their competition was gone, so they came back and said, gosh, you know, it is terrible what we are doing to these poor people out there by giving some free electricity for hot water, and others have to pay to heat their hot water. So make us charge those people that now have electric hot water heaters.

By that time, the solar energy industry had gone.

Mr. SKLAR. That is right, Congressman.

Mr. GIBBONS. So you have to be careful of whom you flirt with in these things.

Go ahead. Do not pay attention to the light.

Mr. SKLAR. Well, it is a jungle out there, Congressman.

Mr. GIBBONS. It is a jungle out there, yes.

Mr. SKLAR. I agree with you.

But to give you a good statistic, we have 1.2 million buildings in the United States with solar water heating. The city of Tokyo alone has 1.5 million.

Why? The Japanese know that with 90 percent imports of oil they have got to get industries in there to offset that energy to build, make a more secure economy.

Mr. GIBBONS. Practically every house you see in Japan has a solar hot water heater.

Mr. SKLAR. Absolutely. And Israel, Greece, and Australia. It is a matter of cost. As a matter of fact, you have to fill out a big form why you should not put on a solar water heater than why you should.

As one of the statements made before, we are building ourselves cost-effectively. We are a small industry. We are less than 15 years old. Yes, we have made some promises that we could not keep, mostly due to our youth and the lower cost of energy through lower oil prices.

But the fact of the matter is that in every sector at the moment, sales are increasing on our own in little tiny niche markets? How are we going to build manufacturing plants in little niche markets? We cannot. We need some domestic incentives.

What we are finding is if we are able to do that and provide some stability because of the environmental pressures, against burning fossil fuels, concerns about noise, concerns about the greenhouse effect, a whole range of issues, our technologies will ultimately come into play.

The issue is how we attract capital. Two of our photovoltaic companies, the technologies that put up large photovoltaic arrays, have been bought by the Japanese—well, not only by Japanese. ARCO Solar went to Seimens and ECD out of Michigan, 50-percent cost share now with Canon of Japan. The fact is that other industrialized competitors are saying if the United States is not interested to continue this, we will come in, we will do that.

The issue that you the committee will have to consider about solar energy, is the extent you will be relying on solar technology in the future. I do not question that choice. The issue is, do you want solar to be American financed, since we lead technologically, or do you want to import it in the year 2025 when you really start using it? That is the issue that the committee has to come to terms with.

The credit we receive, a 10-percent business credit on a very, very small industry is a minimal amount of revenue loss. I have come to terms with what was the discussion here earlier, this is a subsidy. But the fact is if the subsidy comes, we are making it technologically. We are becoming cost effective.

And I expect that if you stand by us for a little while longer, have a little more patience, you will see fairly vibrant and strong solar steam, solar hot water, and photovoltaic industries in the United States. And at that point, you know, if the committee wants to review and sunset these things, that is fine. We will come and make our case.

But the fact of the matter is, it is finally happening. And we hope in this decade of the nineties, that you will take a risk with us in that we are one of the few clean options with our other re-

newable energy resources out there that you can invest in for the future. Otherwise, you are stuck to a future of scrubbers on coal plants and conservation.

And we think the right mix is conservation, obviously the cleanest kind of conventional energy, and solar and renewable energy. And the choice is really yours on where this industry goes.

And thank you very much.

[The statement of Mr. Sklar follows:]

TESTIMONY OF SCOTT SKLAR
SOLAR ENERGY INDUSTRIES ASSOCIATION

INTRODUCTION

The Solar Energy Industries Association, the national trade organization of the photovoltaic and solar thermal manufacturers and component suppliers, urges the U.S. Congress to extend the solar business energy tax credits. The federal incentive has been an effective market primer to facilitate 274 megawatts of solar thermal power, thousands of solar water heating installations, and selective use of photovoltaics, nationwide. Over 250 solar manufacturers, project engineering firms, and systems houses are relying on this federal market initiative as the only way to effectively commercialize solar technologies in the 1990's. The formula of tax credits as market initiatives has been effectively proven in solar thermal power applications, and solar water heating applications and will shortly do so in photovoltaic applications. However, if the U.S. Congress fails to extend these tax incentives, the United States risks the probability of importing all our solar technologies from our international competitors within a decade. Currently Japan and many of our other international competitors are using tax and other market incentives to build their domestic solar energy industries while our technology is being exported and domestic companies are being sold to foreign interests.

The choice is ours - whether to further commercialize solar energy and maintain our technological lead - or whether to abdicate our technological leadership to our international competitors. We have at our command an environmentally benign technology that can displace foreign oil and improve our air quality. Extension of the solar business energy tax credit at a minimal cost will create a billion dollar industry with thousands of jobs, if the solar industry is allowed to mature.

ENVIRONMENTAL BENEFITS

In an era of air pollution, oil spills, global warming and other environmental concerns, solar energy is a clean, positive and environmentally compatible alternative to fossil fuels. For example, replacing fossil fuel generation with solar electric generation results in significant emissions reductions, even compared to the cleanest fossil fuel options.

A solar thermal power facility which uses natural gas as a back-up fuel emits approximately one-quarter as carbon dioxide as the cleanest conventional alternative, an all-natural gas power plant. Nitrous oxide emissions at solar thermal power plants are one third the emissions of a state-of-the-art gas facility.

The public benefits of these reductions in emissions far exceed the cost of the solar tax credit. The value of the tax credit over the life of a facility is approximately one half cent per kilowatt hour. In contrast, measures now being required in southern California to comply with clean air standards will involve costs twice that amount, just to reduce emissions of a single pollutant, nitrous oxides.

In addition to reducing the total amount of air emissions, solar facilities have the added benefit of reducing emissions during daylight hours -- the period of time when the formation of photochemical smog is most severe and when reductions in emissions are most significant.

HISTORY OF AND RESPONSE TO THE CREDIT

Title I of The Energy Tax Act (P.L. 95-618), established the ten percent solar business investment credit which was to expire on December 31, 1982. At the time, there were virtually no photovoltaic or solar thermal power installations, just a few hundred commercial solar water heating and industrial process heat installations.

The Windfall Profits Tax Act of 1980 (P.L. 96-223) extended the solar business tax credit through December 31, 1985 at the 15 percent level. In the Tax Reform Act of 1986, the solar business commercial credits were extended retroactively from January 1, 1986 through December 31, 1988 at the 10 percent level. Commercial sales (excluding residential and export sales) of photovoltaics, solar water heating, and solar thermal power were over $200 million in 1988.

In the 100th Congress, an amendment was introduced on the Senate floor as part of the Technical Corrections Act of 1988 which extended the 10 percent solar business energy credits through December 31, 1989 and last year the credit was extended through September 30, 1990.

These short-term extensions at the eleventh hour adversely affect the development of the solar energy industry in the united States. Potential loss of the credits is deterring private investment until the issue is resolved by the Congress. The Solar Energy Industries Association (SEIA) request for a permanent extension will lower the "new" technology risk while still allowing market forces to determine the most cost effective use of solar.

While the tax incentives are not large enough to offset market forces, they do compensate the investment risk marginally, which is adequate at this point in our development to incentivize projects. Without continued solar research and development, and a favorable regulatory environment, the tax incentives alone will not do the job. however, maintaining tax incentives is essential if the United States is to commercialize the solar technologies.

STATE OF SOLAR INDUSTRY

Photovoltaics, the conversion of sunlight directly to electricity, has come down ten-fold in costs in the last decade while efficiency has increased four-fold. Photovoltaic sales topped $150 million in 1989 with 60 percent of U.S. photovoltaic equipment exported to the developing world to provide power for medical refrigerators, water pumping and irrigation, communications, and lighting. Many of the utilities in the United States are looking towards photovoltaics to provide remote power in the utility service area for sign and street lighting and even in residences off the utility grid. Photovoltaics for utility peak power will be seen in this decade if the tax incentives are maintained, for there are several privately-financed projects in the pipeline now.

Solar water heating is the most common solar technology in the market place. Over one million homes in the United States use solar water heaters. And while that sounds like a large number of solar applications over the last fifteen years, the City of Tokyo alone has an equal number of solar water heaters. Most of the solar water heaters are rated by the Solar Rating & Certification Corporation (SRCC), a non-profit organization established by the solar industry and state government energy officials. SRCC has developed a solar system certification that meets the HUD Minimum Property Technical Standards. In 1988, SEIA/ASHRAE with support of the U.S. Department of Energy has published a commercial-scale design manual which draws from over ten years experience with the industry and federal building applications, to show the best way to design large-scale, cost-effective, commercial solar projects.

Solar thermal power, which concentrates sunlight to create steam, which in turn can be used to generate electricity, is cost effective today as a result of the energy tax credit. As stated earlier in this testimony, the United States has in service the world's largest solar thermal power facilities, generating nearly 300 megawatts of utility-grade electricity in California.

After years of research, solar energy is finally being commercialized. An extension of the solar business energy tax incentives at the current 10 percent level will insure this commercialization continues.

CONCLUSION

The energy tax credits were originally enacted to reduce the strategic vulnerability of the United States because of our reliance on imported oil. These market incentives are even more necessary since in 1989 U.S. petroleum imports surpassed 50 percent. In recent years, continued support for the energy tax credit has been increasingly motivated by concern about the environmental consequences of extracting, shipping and burning fossil fuel to generate electric power. In fact, those energy tax credits that remain -- solar geothermal and ocean thermal -- are technologies with significant environmental benefits.

The solar energy tax credit has proven to be an effective means of accomplishing both objectives: reducing the use of fossil fuel for electric power generation and reducing air pollution and other environmental risks associated with fossil fuel use.

In response to the credit, many companies engaged in solar energy research and development. Unlike outright grants, the energy tax credit is only available if property is installed, placed in service or otherwise used. Thus, for a small initial subsidy the government can assist a fledgling industry and lay the groundwork for a new era of environmentally benign energy production. Particularly at a time when Congress is struggling to fashion policies to encourage the development of clean and safe sources of power as quickly as possible, we hope that this proven mechanism will be retained to keep private capital flowing into solar property projects. I urge you not to let a vigorous solar industry die. To resuscitate it, as will inevitably be the case when the next energy crisis arises, will cost the taxpayers far in excess of the modest cost of extending the business energy tax credits and, in any event, energy savings might not be achievable in a time frame which would make a positive contribution to the national interest.

Factsheet #1

Utility-Scale Solar Thermal Electric Generating Facilities

Present Status. Approximately 300 megawatts of utility scale solar thermal electric generating capacity is now on line and integrated into the U.S. electric utility grid. The largest unit in service today is 80 megawatts, operated by Luz. Future growth of the solar thermal electric generation industry is dependent, in large measure, on the extension of the federal energy tax credit.

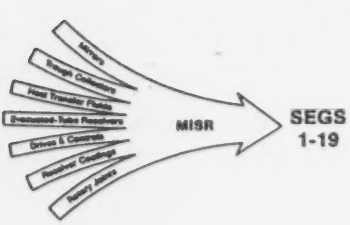
Importance of Federal Energy Tax Credits. Energy tax credits have enhanced the industry's ability to attract private capital. It is difficult to raise capital for relatively low fossil fuel prices over the past decade, it has been a challenge for the solar thermal industry to remain competitive in a marketplace where prices are based on fossil fuel costs.

Although combined federal and state investment and energy tax credits have steadily declined as the technology has evolved, it has been possible to finance solar thermal projects because of dramatic cost reductions and technology improvements to increase efficiency. Since 1984 the lifecycle cost of producing solar thermal electricity has been reduced from 24 cents per kilowatt hour to 8 cent per kilowatt hour -- a 67 percent improvement in five years.

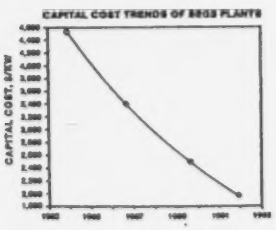
Extension of Credits Critical to Industry Survival. At the present time the solar energy tax credit remains the margin of economic viability and will remain so until technology improvements reduce generating costs to approximately 6 cents per kilowatt hour, or external market conditions improve. Industry funded research and development is presently underway to accomplish the necessary technology improvements, but will take several more years to reach fruition.

Particularly at a time when Congress and the Administration are struggling to fashion policies to encourage the development of clean sources of power as quickly as possible, this proven mechanism should be retained to keep private capital flowing into solar projects which have already demonstrated reliability.

Environmental Benefits. Each 80 megawatt solar facility is capable of reducing the cost of oil imports by $280 million over the thirty year life of a project. While it is difficult to quantify the economic value of energy independence and fuel diversification, it is becoming increasingly clear that the economic value of reducing pollution outweighs the cost of the tax credit. The cost of the tax credit for each kilowatt hour generated over the thirty year life of a facility is approximately one half cent. The economic value of the emissions reductions is more than twice that amount, without placing any fixed value of carbon dioxide emission reductions.



Commercial Solar Thermal Systems



Factsheet #2

Commercial-Scale Solar Water Heating and
Industrial Process Heat Applications

Present Status. Approximately 1.5 million buildings in the United States use solar thermal applications to heat water, create steam for industrial processes, or heat space. Solar water heating makes up nearly 90 percent of the market and about 15 percent of the current installations are in the commercial sector. Future growth of commercial applications of solar thermal technology involve ways to lower up-front costs in a technology whose payback runs from 5 to 10 years.

Importance of Federal Energy Tax Credits. Energy tax credits have been an important tool to leverage investment in technology in a longer-term payback. Our industry faces a market impediment regarding solar technologies which have inherently higher up-front capitalization but whose life-cycle costs are less than conventional thermal energy applications when fuel costs are taken into account.

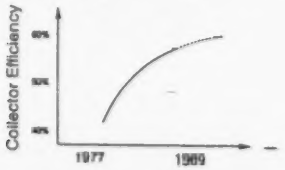
As a result of technology improvements, increased market penetration, and a stronger delivery infrastructure for maintenance, solar thermal applications have increased dramatically in recent years in the commercial sector. Loss of the residential tax credits which expired on December 31, 1985 has a devastating effect on the U.S. industry whose sales dropped from $725 million in 1985 to $76.5 million in 1986. Efficiency has increased from 40 percent in 1975 to over 60 percent in 1989 with maintenance problems dropping to less than 3 percent nationwide.

Extension of the Solar Tax Credits are Critical. At the present time, the commercial solar tax credits are the only incentive to integrate solar thermal applications in the commercial water heating and industrial process heat sectors. The United States is significantly behind every other industrialized nation in utilizing solar thermal applications. Industry/government R&D programs are underway to assist in the integration of certified solar equipment in the existing Federal Home Administration (FHA) loan program. Once that is achieved, solar thermal will be more easily integrated into federal loan programs which finance commercial installations such as the Farmers Home Administration (FmHA) financing program which is likely within the next five years.

The building sector uses 35 percent of energy for lighting, heating & cooling & process heat. The solar tax credits are the only existing incentive in the building sector to utilize energy efficient devices.

Environmental Benefits. Solar thermal applications can offset nearly 25 percent of U.S. energy use for buildings or nearly 9 percent of total U.S. energy use. Emissions from the building sector account for nearly 25 percent of environmentally-degrading emissions through either direct combustion of fossil fuels within the building structure or by utility plants providing electricity to these structures. The economic value of reducing pollution clearly outweighs the costs of the credit which in the building sector is the least expensive way to curtail emissions other than car-pooling.

Efficiency Has Improved



Factsheet #3

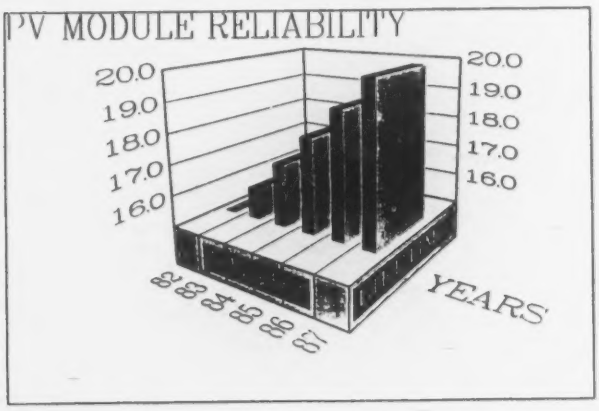
Photovoltaics for Utility- and Commercial-Scale Applications

Present. Nearly 35 megawatts of photovoltaic (solar electric cells) electricity is interconnected with our nation's utilities. Most utility companies are using photovoltaics for off-grid applications such as powering communications, sign & area lighting, and buildings. While sales for photovoltaics have increased nearly 35 percent from 1988 to 1989, the sales increase was predominantly for the Third World.

Importance of the Federal Energy Tax Credits for Large-Scale Usage. While solar photovoltaics have reduced their costs ten-fold in the last decade, currently photovoltaics are three-fold higher than baseload conventional energy. Environmental benefits, modularity, and ease of use combined with fast plant construction times and natural compatibility with peak power needs make photovoltaics far more attractive that its higher cost would belie. The U.S. photovoltaics industry is in the classic chicken-and-egg situation, that with extended commercial tax credits they will scale-up their manufacturing facilities which could cut costs by 30 percent.

Extension of Solar Credits Critical to Industry Survival. At the present time the solar energy tax credits lower the risk for investment into a very high-tech and new technology. The use of photovoltaics on a large-scale can only be increased with incentives in-place. The Administration has proposed a Photovoltaics Manufacturing Initiative in its FY'91 U.S. Department of Energy to assist the U.S. photovoltaics industry to scale-up its production to meet an increasing international market threat by the Germans and Japanese in particular. However, manufacturing assistance in scale-up will be meaningless if the emerging market does not increase so as to attract investment in new manufacturing facilities.

Environmental Benefits. Photovoltaics directly convert sunlight to electricity without noise, moving parts, or emissions. The maintenance of photovoltaic equipment is also environmentally benign. The United States must be prepared to create an environment for private sector investment in photovoltaics or the U.S. will lose its lead, only to import the technology of the 21st century from our international competitors.



Mr. GIBBONS. That is a very good, straightforward presentation, sir.

Mr. Tindall.

STATEMENT OF BARRY S. TINDALL, DIRECTOR OF PUBLIC POLICY, NATIONAL RECREATION AND PARK ASSOCIATION

Mr. TINDALL. Yes, thank you, Mr. Chairman.

I am Barry Tindall, director of public policy for the National Recreation and Park Association. We are an organization of 21,000 people, principally folks who work in the public sector, State park systems, community park systems, and in some cases hospitals and facilities for the disabled. We attempt to conserve land and to provide recreation opportunity. We are headquartered in the Metropolitan Washington area.

There are just four or five points I would quickly make, Mr. Chairman. In the context of this hearing, your definition of the environment and initiatives to restore and maintain it must embrace public park and recreation resources, not only amenity, but for the existence of life itself.

Parks and recreation embrace both social and physical environment matters.

Consider, for example, that as this hearing continues today, before the sun sets in California, we will have consumed another 5,000 acres of farm and forest for development purposes, all kinds of development, some public and some private. Our national health bill is just about $600 billion a year and going up at about 7 to 10 percent every year.

The administration a few weeks ago requested $11 billion for substance abuse, for combatting the scourge of drugs in America. And on it goes.

There is legislation pending in the Congress, the American Heritage Trust, sponsored by Congressman Morris Udall and about 220 other colleagues. That bill is H.R. 876. And it has been reported by committee.

It would deal with the land and water conservation fund, the urban park and recreation recovery program and the historic preservation program, combining these existing authorities to create the so-called American Heritage Trust. The trust would secure funding for parks and recreation. That fund is largely driven by revenues earned from the leases and royalties to extract energy from the Outer Continental Shelf.

For the foreseeable future those numbers look like they will be $3 to 3½ billion per year. But as this body well knows, that is a controversial set of activities. And the amount of revenue, while again foreseeable in the short term, say the next decade, it is useful to point out that in the late seventies the revenue for most CS leasing and bonuses was running at about $10 to $12 or $14 billion a year. So the long-term trend line is not that encouraging.

The third point I would make, Mr. Chairman, and really the heart of our presentation before you today, is that we believe this committee and the Congress as a whole should consider imposing a Federal excise tax on a wide range of recreation goods, products and services. This revenue would supplement the American Herit-

age Trust revenues and assist other public recreation capital projects not now eligible for land or water conservation fund assistance. And I refer here to community centers, local indoor recreation complexes, and things of that sort.

These revenues would supplement the existing land and water conservation fund for which the administration this year has requested $250 million to be appropriated. But I would be quick to point out that the administration's entire request is for Federal park land acquisition. Not a penny of it is proposed for the State assistance program and for sharing with local governments.

All of the new revenues that would come from our proposed excise tax on recreation goods and services should go to a single fund. And that is a different concept than typically is talked about where the industries have said, well, we will be taxed if we can put it back into a motorcycle trust fund or an off-road vehicle trust fund or something of that nature.

In our judgment, the unknown number of mini funds that would be created would be a nightmare for governments. It would be a nightmare and a disaster for comprehensive planning. It would lead to gross distortions of recreation investment. And a variety of other problems would result as well.

Finally, Mr. Chairman, let me mention that in our judgment most of the new revenues from an excise tax on recreation goods and services—and we are suggesting looking initially at something in the order of 1 percent applied at the retail level—would generate probably $300 to $400 million a year—ought to be applied principally at the State and local level. This is where most of the impact for recreation and the demand for recreation occurs.

Let me conclude, Mr. Chairman, by observing an interesting item in the news yesterday. We are now a nation, according to the Census Bureau, of 250 million people. That puts us in the big leagues. We can now say we have one-quarter of a billion people. Seventy-five to 80 percent of these people, now and in the next decade, will live in urban places. That is why we think the emphasis on land conservation, on recreation access, has to be on State and local resources.

Thank you very much.

[The statement of Mr. Tindall follows:]

National Recreation and Park Association

Statement of National Recreation and Park Association at Long-Term Strategy Hearing on the Environment, Committee on Ways and Means, U.S. House of Representatives, March 7, 1990

Mr. Chairman: Thank you for the opportunity to appear before this Committee. I am Barry Tindall, director of Public Policy for the National Recreation and Park Association. We are an association of over 20,000 professionals and civic leaders who plan for and provide recreation and park experiences, principally in the public sector. Our members work through municipal, county, special district, state and federal park and recreation systems and in private healthcare-related recreation settings. They are typically involved with the recreation policies, plans, development and management of these systems.

As with most other elements of government, park and recreation units are also constantly in search of revenue sources which legitimately might be applied to capital investments and to public service. Local and state recreation and park systems and services are supported primarily with state or local revenue sources. Historically, however, national fiscal resources have had an important impact leveraging additional non-federal funds. In some situations, a fifty-fifty matching grant for a state park project has eliminated the demand for further action at 100 percent federal cost.

Since 1965, for example, the Land and Water Conservation Fund has been a national catalyst for certain types of capital investments for state and local governments and for federal land systems. Over the last decade, however, the demands on LWCF have far exceeded appropriations. In fiscal 1989, $16.7 million was available to state and local governments; grant requests exceeded $425 million.

To address this problem U.S. Representative Morris K. Udall (D-AZ) in 1988 introduced legislation to create a trust fund mechanism, combining and improving the existing authority of the Land and Water Conservation Fund, the Historic Preservation Fund and the Urban Park and Recreation Recovery Program. This proposal would help answer large capital investment shortfalls in parks, conservation and recreation. H.R. 876 is cosponsored by 220 Members. It was reported by the Committee on Interior on July 17 and awaits floor action. Enactment this year of H.R. 876 is my organization's top national policy priority. We urge your support for this measure when it is considered by the House.

It is in this context that we urge the Committee to consider a federal excise tax on a broad array of recreation goods and services to help finance public park and recreation resource investment and activities. These new resources should supplement other revenue sources now available to and invested through the Land and Water Conservation Fund, for example. They should also expand and improve other public recreation resources not now eligible for LWCF assistance. An excise tax of one percent of retail cost should be considered.

We recommend that all recreation goods and services reasonably related to the use of public park and recreation resources be subject to an excise tax. The litmus test should be whether the use of a product or service impacts on public recreation resources, including traditional recreation "land and water" uses and community centers and similar recreation space, or whether public investments would generally enhance recreation opportunity.

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This test would likely result in a determination that an excise tax is justified on athletic footwear and equipment associated with baseball, softball, football, soccer, swimming, tennis, golf, lacrosse and other team and individual recreational sports, bicycling, all types of recreation vehicles including all-terrain vehicles and off-road motorcycles, surfing and windsurfing, skiing, camping, hiking and other recreation activities. It should also be applied to fees for many recreation services, including professional guiding, and the rental of recreation equipment. The purchase by public systems of such goods and services should be exempt from taxation. As supported in 1987 by the President's Commission on Americans Outdoors, we suggest that the tax be applied to all relevant goods at the retail level so as not to provide an advantage to importers of similar goods.

Funds would be credited to and annually allocated from a single, special federal account. Resources should be available to state and local governments, allocated through a population based formula. Maximum consideration should be given to locally accessible recreation resources, although federal land systems participation could be considered.

The concept of enacting excise taxes to fund public recreation investments is not new and established precedents are widely accepted. The long-established Dingell-Johnson Act, revised in 1984 by the Wallop-Breaux Act, imposes an excise tax on boats and fishing equipment and distributes revenues to the states for fishery and boating enhancement. Similarly, the Pittman-Robertson Act, passed in 1937, supports the restoration and enhancement of wildlife resources by levying an excise tax on sporting arms and ammunition. In fiscal 1990, Dingell-Johnson and Pittman-Robertson returned $179.8 million and $117.2 million for state restoration and enhancement purposes, bringing the historical totals of the programs to $1.23 billion and $2.1 billion, respectively. These successes can serve as models to develop adequate support for other recreation services and resources. In fact, persons and organizations most directly affected by these taxes claim, with at least some justification, that they are supporting investments enjoyed by many other recreation users. Our proposal would broaden the revenue base and more equitably spread the burden of support for basic recreation resources.

The enormous recreation investment backlog continues unabated, partly because the Land and Water Conservation Fund state assistance program has received bare subsistence funding since the early 1980's. This important program provides fifty percent federal matching grants to state and local governments to acquire, develop and (in some circumstances) to rehabilitate public park and recreation resources. NRPA is completing a capital needs survey of state agencies responsible for acquiring, developing and managing recreation resources. The 40 states responding thus far had in fiscal 1989 invested over $777 million in capital resources, such as land, facilities and rehabilitation. Through 1995, the 40 states need to invest over $6 billion in capital projects. Of units responding, 64 percent said that if more assistance was available, their agency's share of capital spending would rise. In fact, no unit said its investment would fall if federal assistance increased.

A companion survey of local public park and recreation investment needs and plans is also underway. While preliminary data are not yet available it is likely that local government capital needs will conservatively be in the range of $10 billion-$15 billion in the 1990 - 1995 time frame. With the passage of time opportunities for public recreation investment decline, and the costs of system expansion, plus restoration of existing infrastructure, will likely increase significantly. Thus, finding new revenue sources will be imperative.

While the needs are great, so are the opportunities for financing recreation resources. According to preliminary research available to the President's Commission on Americans Outdoors (PCAO) in 1987, a one percent excise tax on retail sales of sport and recreation-related goods would produce approximately $380 million annually. Other figures show similar promise. The 1989 Statistical Abstract of the United States reports that $26.8 billion was spent in 1987 on sporting equipment and related goods. Similarly, amusement and recreation services represented $24 billion of total Gross National Product in 1987. A one percent tax would produce $270 million or more annually. Unfortunately, the national spending series and indices combine a number of products and services not typically considered to be recreation. Thus, further research on the specific goods and services to be taxed, the rate of taxation, and the amount that could reasonably be available await further research and analysis.

The PCAO recognized the potential of a recreation excise tax when recommending its use in the 1987 Report of the President's Commission. Furthermore, a study performed for the PCAO by Market Opinion Research found that 78 percent of Americans "are willing to pay fees and taxes dedicated to outdoor recreation." The public feels strongly, however, that money collected for recreation fees should be returned to increase recreation opportunity, not sent to the general treasury.

We believe the application of an excise tax on recreation goods and services is a simple approach with great merit. At least some manufacturers and retailers are likely to instantly oppose further consideration of these ideas. That would be regrettable, for the use of most goods and services requires dedicated recreation space. Absent these investments, use declines and with it, markets. There is an inherent logic to the investment of funds paid on certain products purchased by boaters, anglers and hunters to provide them with greater opportunity as currently practiced. We must begin to assume the same responsibility for our other recreation needs.

Mr. GIBBONS. Well, we appreciate that.
Mr. Lipman.

STATEMENT OF STEPHEN C. LIPMAN, PRESIDENT, GEOTHERMAL DIVISION, UNOCAL CORP., LOS ANGELES, CA, ON BEHALF OF GEOTHERMAL RESOURCES ASSOCIATION

Mr. LIPMAN. Mr. Chairman, my name is Stephen Lipman. I am president of the Unocal Geothermal Division. I am here today speaking on behalf of the members of the Geothermal Resources Association. The GRA welcomes this opportunity to describe how geothermal resources could contribute positively to a secure energy future in our country with significantly less environmental impact than conventional fuels.

The GRA is an association of major U.S. geothermal producers and developers who are actively developing geothermal resources on our Nation's public and private lands. Member companies of the GRA include small, independent geothermal developers and large integrated energy producers.

The primary commercial application of geothermal energy is electrical generation. According to the USGS, geothermal resources within the United States could potentially provide 95,000 to 150,000 megawatts of electrical generating capacity. We are not sure how much of this potential could be economically developed. Today more than 2,600 megawatts of geothermal power capacity has been constructed and is in operation in the United States. And we see the potential for commercial development of an additional 2,000 to 5,000 megawatts of electricity over the next decade. This means we are now displacing fossil fuels equivalent to nearly 30 million barrels of oil per year and possibly another 20 to 50 million barrels per year by the turn of the century.

We see that certain parts of the country are beginning once again to experience electric power shortages and potential disruptions, reminding us of the energy crisis of the mid and late 1970's. While action is needed to bolster our energy supply, we are also facing an equally urgent problem, and that is the need to improve the environment, which has impacted in part by the existing energy resource mix.

In addition, it is going to take more energy to clean up our environment. Increasing the use of geothermal energy for electrical production in lieu of more conventional fuels will help improve the environment by decreasing these impacts.

For example, geothermal powerplants do not contribute to the deterioration of the ozone. A recent California Energy Commission report on energy technology notes that geothermal power emits no combustion contaminants and that any other emissions are minor.

In terms of global warming, geothermal plants emit a very small fraction of carbon dioxide, and that is a small fraction of what the fossil fuel powerplants would emit for the same electrical output.

Although the environmental benefits of geothermal power have not been quantified precisely, recent analyses of current data by the California Energy Commission indicate that billions of dollars could be saved annually if emissions from conventional power

plants could be reduced to levels approaching geothermal emissions.

Geothermal energy is a technically prove, high-quality resource that can play a significant role in the Nation's energy future. However, there are some impediments to geothermal's full utilization.

First of all, it now appears that the use of geothermal energy will grow at a much slower pace than in the last decade. The recent growth has been rapid because of the availability of favorable power purchase contracts. It is our hope that the Federal Government will continue to support environmentally sound development of new powerplants.

And one very important ingredient of support from the Federal Government can be in the form of a permanent extension of the current geothermal energy tax credit. This tax credit extension is a critical element for stability and long-term growth in the industry, and the tax credit will provide existing developers with a strong incentive to continue exploration and development of new geothermal resources.

The availability of the tax credit will provide greater economic certainty for developers to plan 5 or 10 years into the future and enter into long-term contracts for construction of new geothermal powerplants. Because so many geothermal developers already operate on the margin of economic viability, the——

Mr. GIBBONS. Mr. Lipman, we are going to have to interrupt you because we have been called. And I hate to do that to you.

Mr. LIPMAN. That is fine, sir.

[The statement of Mr. Lipman follows:]

STATEMENT OF
STEPHEN C. LIPMAN
PRESIDENT, UNOCAL GEOTHERMAL DIVISION
ON BEHALF OF
THE GEOTHERMAL RESOURCES ASSOCIATION
BEFORE THE
WAYS AND MEANS COMMITTEE
OF THE
UNITED STATES HOUSE OF REPRESENTATIVES
INVESTIGATION OF
ENVIRONMENTAL ISSUES

MARCH 7, 1990

I AM SPEAKING TODAY ON BEHALF OF THE MEMBERS OF THE GEOTHERMAL RESOURCES ASSOCIATION (GRA). THE GRA WELCOMES THIS OPPORTUNITY TO DESCRIBE HOW GEOTHERMAL RESOURCES COULD CONTRIBUTE POSITIVELY TO A SECURE AND ENVIRONMENTALLY-BENEFICIAL ENERGY FUTURE FOR OUR COUNTRY.

THE GRA IS AN ASSOCIATION OF MAJOR U.S. GEOTHERMAL PRODUCERS AND DEVELOPERS WHO ARE ACTIVELY DEVELOPING GEOTHERMAL RESOURCES ON OUR NATION'S PUBLIC AND PRIVATE LANDS. MEMBER COMPANIES OF THE GRA INCLUDE SMALL INDEPENDENT GEOTHERMAL DEVELOPERS, AND LARGE, INTEGRATED ENERGY PRODUCERS. (ATTACHED IS A LIST OF THE MEMBERSHIP OF THE GRA.)

THE PRIMARY COMMERCIAL APPLICATION OF GEOTHERMAL ENERGY IS ELECTRICITY GENERATION. ACCORDING TO THE U.S. GEOLOGICAL SURVEY, UNITED STATES GEOTHERMAL RESOURCES COULD POTENTIALLY PROVIDE 95,000 TO 150,000 MEGAWATTS OF ELECTRICAL GENERATING CAPACITY. TO DATE, APPROXIMATELY 2,600 MEGAWATTS OF GEOTHERMAL POWERED CAPACITY HAS BEEN CONSTRUCTED IN THE U.S., WITH THE POTENTIAL FOR THE DEVELOPMENT OF AN ADDITIONAL 2-TO-5 THOUSAND MEGAWATTS OF ELECTRICITY OVER THE NEXT DECADE.

WHILE THE COUNTRY IS BEGINNING TO ONCE AGAIN EXPERIENCE SUPPLY SHORTAGES AND DISRUPTIONS SIMILAR TO THE ENERGY CRISES OF THE MID AND LATE 1970'S, WE ARE FACING ANOTHER EVEN GREATER PROBLEM. THAT IS THE DEGRADATION OF OUR ENVIRONMENT, WHICH IS CAUSED, IN PART, BY THE EXISTING ENERGY RESOURCE MIX. THE INCREASED USE OF GEOTHERMAL ENERGY, IN LIEU OF MORE CONVENTIONAL FUELS, FOR ELECTRICAL PRODUCTION WILL HELP TO IMPROVE THE ENVIRONMENT BY DECREASING THIS DEGRADATION. GEOTHERMAL ELECTRICAL GENERATING PLANTS DO NOT CONTRIBUTE TO THE DETERIORATION OF THE OZONE. A RECENT CALIFORNIA ENERGY COMMISSION REPORT ON ENERGY TECHNOLOGY CHARACTERIZATIONS NOTES THAT GEOTHERMAL POWER EMITS NO COMBUSTION CONTAMINANTS AND THAT ANY OTHER EMISSIONS ARE MINOR." (SOURCE: CALIFORNIA ENERGY COMMISSION, STAFF ISSUE PAPER #7, SEPTEMBER 6, 1989.) IN TERMS OF "GLOBAL WARMING", GEOTHERMAL PLANTS EMIT BETWEEN 7 AND 10 TIMES LESS CARBON DIOXIDE THAN GAS, OIL OR COAL-FIRED POWER PLANTS FOR THE SAME ELECTRICAL OUTPUT.

ALTHOUGH THE ENVIRONMENTAL BENEFITS OF GEOTHERMAL POWER HAVE NOT BEEN QUANTIFIED PRECISELY, RECENT ANALYSIS OF CURRENT DATA BY THE CALIFORNIA ENERGY COMMISSION INDICATE THAT BILLIONS OF DOLLARS WOULD BE SAVED ANNUALLY IF EMISSIONS FROM CONVENTIONAL POWER PLANTS COULD BE REDUCED TO LEVELS APPROACHING GEOTHERMAL'S EMISSIONS. (SOURCE: ECONOMIC ASSESSMENT OF THE HEALTH BENEFITS FROM IMPROVEMENT IN AIR QUALITY IN THE SOUTH COAST AIR BASIN, DR. JANE HALL, 1989.)

THERE ARE OTHER ADVANTAGES DERIVED FROM GEOTHERMAL RESOURCE PRODUCTION. FIRST, GEOTHERMAL PLANTS OCCUPY LESS LAND THAN OTHER ENERGY RESOURCE TECHNOLOGIES. SECOND, U.S. GEOTHERMAL PLANTS UTILIZE GEOTHERMAL FLUIDS OR AIR FOR COOLING AND THEREFORE DO NOT CONSUME NON-GEOTHERMAL WATER. AND FINALLY, THE VISUAL IMPACT OF A GEOTHERMAL PLANT IS

SIGNIFICANTLY LESS THAN THAT OF A COAL-FIRED OR, EVEN WIND-POWERED PLANTS.

IN ADDITION TO ENVIRONMENTAL CONCERNS, OUR DEPENDENCE ON FOSSIL FUELS, AND IN PARTICULAR IMPORTED FOSSIL FUELS, CONTINUES TO GROW BECAUSE PRICES REMAIN LOW AND PRESENT SUPPLIES ARE ABUNDANT. CURRENTLY, WE ARE MORE DEPENDENT ON IMPORTED OIL THAN WE WERE DURING THE ENERGY CRISIS OF THE 1970'S. RECENT PROJECTIONS INDICATE IMPORTED ENERGY MAY PROVIDE ALMOST 30 PERCENT OF THE TOTAL ENERGY USED IN THE UNITED STATES IN THE YEAR 2000.

WE BELIEVE GEOTHERMAL ENERGY CAN PLAY A SIGNIFICANT ROLE IN OUR NATION'S ENERGY FUTURE. HOWEVER, THERE ARE SOME IMPEDIMENTS TO GEOTHERMAL'S FULL UTILIZATION.

FIRST OF ALL, USE OF GEOTHERMAL ENERGY WILL GROW, BUT AT A MUCH SLOWER PACE THAN IN THE LAST DECADE. UNDER LESS FAVORABLE POWER PURCHASE CONTRACT CONDITIONS, GEOTHERMAL DEVELOPERS WILL NEED ASSURANCES FROM THE FEDERAL GOVERNMENT THAT IT WILL CONTINUE TO SUPPORT ENVIRONMENTALLY-SOUND DEVELOPMENT OF NEW POWER PLANTS.

ONE VERY IMPORTANT ASSURANCE FROM THE FEDERAL GOVERNMENT COULD BE IN THE FORM OF A PERMANENT EXTENSION OF THE GEOTHERMAL ENERGY TAX CREDIT. THIS TAX CREDIT EXTENSION IS A CRITICAL ELEMENT FOR CONTINUITY AND LONG-TERM GROWTH IN THE INDUSTRY. THE TAX CREDIT WILL PROVIDE EXISTING DEVELOPERS WITH A VERY STRONG INCENTIVE TO CONTINUE EXPLORATION AND DEVELOPMENT OF NEW GEOTHERMAL RESOURCES. THE AVAILABILITY OF THE CREDIT WILL PROVIDE GREATER ECONOMIC CERTAINTY FOR DEVELOPERS TO PLAN 5 TO 10 YEARS INTO THE FUTURE AND ENTER INTO NEW LONG-TERM CONTRACTS FOR CONSTRUCTION OF GEOTHERMAL POWER PLANTS. BECAUSE SO MANY GEOTHERMAL DEVELOPERS ALREADY OPERATE ON THE MARGIN OF ECONOMIC VIABILITY, THE ENERGY TAX CREDIT HAS PROVEN TO BE AN EXCELLENT MECHANISM BY WHICH A SUFFICIENT FINANCIAL INCENTIVE IS CREATED.

ANOTHER MECHANISM THAT WOULD PROVIDE FINANCIAL EQUALITY OF GEOTHERMAL WITH OTHER POWER GENERATION SOURCES WOULD BE TO INSTITUTE A POLICY WHERE THE FUEL COST OF ALTERNATIVES REFLECTED THE TRUE ENVIRONMENTAL COST. THIS CAN BE DONE BY APPLYING COSTS OF THE EMISSIONS OF THE VARIOUS ALTERNATIVES. THIS WOULD ENABLE THE NON-POLLUTING SOURCES, SUCH AS GEOTHERMAL, TO BE MORE COMPETITIVE IN THE MARKET.

WE CANNOT STRESS ENOUGH THE IMPORTANCE OF THE TAX CREDIT AS A STRONG FACTOR FOR GROWTH AND DEVELOPMENT OF THE INDUSTRY. THE AMOUNT INVESTED BY THE FEDERAL GOVERNMENT THROUGH THE GEOTHERMAL ENERGY TAX CREDIT EQUALS A FRACTION OF A CENT PER KILOWATT HOUR, IN COMPARISON TO THE LONG-TERM COST OF THE GOVERNMENT OF ENVIRONMENTALLY HARMFUL FUEL SUPPLIES. THE ONLY INCENTIVE CURRENTLY PROVIDED BY THE FEDERAL GOVERNMENT FOR CLEAN NEW GEOTHERMAL COMMERCIAL DEVELOPMENT IS THE ENERGY TAX CREDIT. A DEVELOPER QUALIFIES FOR THE CREDIT ONLY AFTER THE PROJECT IS PLACED IN SERVICE. STRICT RECAPTURE RULES ARE IN PLACE IF THE PROJECT FAILS TO CONTINUE TO OPERATE. THE REMAINING ELEMENT -- A STRONG MARKET FOR GEOTHERMAL POWER -- WILL BE DRIVEN, IN PART, BY ENVIRONMENTAL CONCERNS.

IN A SECOND AREA OF CONCERN, THE GRA IS WITNESS TO A SEVERE DECLINE OF FUNDING FOR DOE GEOTHERMAL RESEARCH AND DEVELOPMENT PROGRAMS THAT THE ADMINISTRATION HAS HISTORICALLY SUPPORTED. NEW TECHNIQUES AND EQUIPMENT MUST BE DEVELOPED IN ORDER TO TAP GEOTHERMAL RESOURCES TO THE MAXIMUM. ACCORDINGLY, WE BELIEVE THE SHORT AND LONG-TERM POTENTIAL OF GEOTHERMAL ENERGY WILL BE BEST ASSURED IF THE CONGRESS LENDS ITS SUPPORT TO EXPANDING AND FOCUSING GEOTHERMAL RESOURCE AND DEVELOPMENT FOR THE FUTURE. AT PRESENT INDUSTRY REPRESENTATIVES ARE WORKING WITH DOE TO DEFINE THE NEXT STAGES

OF DEVELOPMENT NEEDED. WE'LL BE LOOKING FOR CONGRESSIONAL SUPPORT OF THE NEXT DOE GEOTHERMAL BUDGET.

FINALLY, AND AN AREA OF MAJOR GEOTHERMAL INDUSTRY CONCERN THAT I ALLUDED TO EARLIER, IS THE IMMEDIATE NEED FOR A CLEAR NATIONAL ENERGY POLICY. THE FEDERAL GOVERNMENT, BY DEFAULT, IS LEAVING POWER GENERATION POLICY TO STATE REGULATORS AND NO CLEAR NATIONAL POLICY DIRECTION FOR NON-UTILITY POWER GENERATION IS BEING PROPOSED. THIS INACTION, ON THE PART OF THE FEDERAL GOVERNMENT, ENDANGERS MEETING THE FUTURE ENERGY NEEDS OF AMERICA WITH THE TIMELY APPLICATION OF THE BEST MIX OF POWER GENERATION TECHNOLOGIES. IT LIMITS INDUSTRY'S ABILITY TO PLAN FUTURE POWER PROJECTS.

IT IS TIME FOR THE FEDERAL GOVERNMENT TO ASSUME THE LEADERSHIP IN SETTING NEW ENERGY POLICY AND DIRECTION. WE BELIEVE THAT PRUDENT TAX POLICY INCENTIVES SUCH AS THE ENERGY TAX CREDIT ARE A CRITICAL ELEMENT IN THAT EFFORT.

WHILE NO SINGLE GENERATING TECHNOLOGY IS THE TOTAL ANSWER TO TOMORROW'S POWER NEEDS, TAX INCENTIVES FOR CLEAN, EFFICIENT TECHNOLOGIES WOULD HELP DISPLACE SOME OF THE GREATER COSTS TO THE ENVIRONMENT. IT IS STRATEGICALLY PRUDENT TO MAINTAIN AS BROAD A DIVERSITY OF ENERGY RESOURCES AS POSSIBLE, AND GEOTHERMAL SHOULD BE EMPLOYED WHERE IT IS AVAILABLE, PRIMARILY IN THE WESTERN POWER GRIDS. IT PROVIDES DIVERSITY OF MIX, SECURITY OF SUPPLY AND DOMESTIC EMPLOYMENT.

THE GEOTHERMAL RESOURCES ASSOCIATION IS VERY OPTIMISTIC ABOUT THE FUTURE PROSPECTS FOR GEOTHERMAL ENERGY DEVELOPMENT, A CLEAN, COST-EFFECTIVE ELECTRIC GENERATION ALTERNATIVE. WE CERTAINLY WILL CONTINUE TO PARTICIPATE IN THE DEVELOPMENT OF A LONG-RANGE ENERGY POLICY FOR THE UNITED STATES.

THANK YOU VERY MUCH FOR YOUR INTEREST IN THE CONTRIBUTION OF GEOTHERMAL ENERGY TOWARD A CLEAN ENVIRONMENT AND THE OPPORTUNITY TO PRESENT THESE VIEWS.

GEOTHERMAL RESOURCES ASSOCIATION MEMBER COMPANIES

CALIFORNIA ENERGY COMPANY

GEYSERS GEOTHERMAL CORPORATION

MAGMA POWER COMPANY

ORMAT ENERGY SYSTEMS

OXBOW GEOTHERMAL CORPORATION

PACIFIC ENERGY CORPORATION

UNOCAL CORPORATION

Mr. GIBBONS. Mr. Thomas.

Mr. THOMAS. Mr. Chairman, I do not have any questions. And we are under the gun here on a vote. But I do want to make some observations.

I really enjoy the arguments of subsidies, and somehow we are not supposed to assist alternate energy sources with things like subsidies, which as I recall was every other section of land for the railroad, major airplanes today flying on wings that were developed with taxpayer dollars on military aircraft.

We had a situation in southern California which was classic. We had a wonderful fixed rail system called the old red line. And if you've ever seen "Roger Rabbit," there is an example of what it used to look like. The freeways took care of it, and now we are spending almost billions in trying to regain a fixed-rail capability.

When you look at both geothermal and thermal, another criticism I hear is that, well, some of this is not cutting-edge technology, it is not really novel or new, and so they do not deserve subsidies. Sometimes it is the way in which they are combined or the very incremental improvements in system which make it commercially viable.

I underscore "old technology" because an airplane flew across the country yesterday that was built on technology 30 years ago. And it is still the fastest airplane the world has seen and will probably see for some time. If we were discussing 30-year-old technology in the area of solar or geothermal, clearly we would not be talking about a desire to subsidize that.

I have seen firsthand what some of the cutting-edge technology can do, Mr. Chairman. And I will close by saying—just as an example for geothermal—we now have a U.S. naval operation in the middle of the Mojave Desert fully powered by a geothermal operation. And when you begin looking at energy costs as a component for running a place like the Naval Weapons Center in Richcrest, CA, it is going to be a significant enhancement for the Nation.

But they are not only providing 100 percent of the energy needs of this naval installation, they are also feeding into the power grid.

I think the tax credits allow a recombination of existing technology, which can be called "new" if you wanted, which continues the option of showing that the Government is interested in alternate energy, that we have not exhausted the opportunities for a recombination, and that for the amounts of money dealing with these credits in exchange for 50 billion, 100 billion displacement of oil is a very, very modest investment in an area which can provide great breakthroughs in the future.

Thank you very much, Mr. Chairman.

Mr. GIBBONS. Thank you very much.

And I want to thank the panel for its contribution to our consideration here today.

These hearings will continue on Wednesday, March 14, beginning at 11 a.m. in this room.

[Whereupon, at 2:30 p.m., the committee was adjourned, to reconvene on Wednesday, March 14, 1990, at 11 a.m.]

LONG-TERM STRATEGIES ON THE ENVIRONMENT

WEDNESDAY, MARCH 14, 1990

HOUSE OF REPRESENTATIVES,
COMMITTEE ON WAYS AND MEANS,
Washington, DC.

The committee met, pursuant to notice, at 10:05 a.m., in room 1100, Longworth House Office Building, Hon. Dan Rostenkowski (chairman of the committee) presiding.

Chairman ROSTENKOWSKI. The committee will come to order.

Today is the final day of our hearings on ways in which the Federal tax system may be used to improve our Nation's environment. I am sure that the members of the committee agree that the hearings have been very informative. We have had a frank discussion of the serious problems which we must confront in the very near future if our environment is to be preserved. Many witnesses have presented us with helpful suggestions on the ways in which the Federal tax system can influence decisions to pollute or not to pollute. Many business organizations have cautioned that the committee must weigh its actions carefully to avoid jeopardizing particular industries and our competitive position abroad.

Ladies and gentlemen, the decisions which this committee will face will be difficult ones, calling for hard choices, but I am convinced that we must face up to the problems confronting our environment, just as we must face up to the enormous budget deficit which burdens us all. In my mind, the two are not mutually exclusive. As I have recently proposed, taxes should make it expensive to overconsume the environment, and those taxes can be used, at least in part, to reduce our budget deficit.

I know that these environmental taxes will undoubtedly make the prices of goods and services rise, but the point is that these prices are too low now to really reflect the environmental costs of doing business. The cost of cleaning up the environment is a cost that we must all share.

I welcome as our first panelist, Hon. George Miller, a Member of Congress from California. Mr. Miller, thank you very much for joining us. I am sure the committee is looking forward to your observations. We know the amount of effort that you have put in as chairman of the Subcommittee on Water Power and Offshore Energy Resources. So, Mr. Miller, welcome to the committee. If you are ready to give us your testimony, we are ready to receive it.

STATEMENT OF HON. GEORGE MILLER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. MILLER. Thank you, Mr. Chairman, for holding these hearings, and thank you to the members of the panel for attending.

I will be brief, but I will try to outline a couple of points that I think are important. I saw this morning how expensive a conversation can be with you. Bryant Gumbel had a 3-minute conversation with you, and it cost us $2 million on the national deficit. So I will try to be as quick as I can.

First of all, let me say that I commend the committee for holding these hearings. I think this may be the most important set of environmental hearings to be held in the Congress this year. Certainly, when looking forward to the 1990's and the year 2000, these may be the most important hearings of the decade. I say that because, when we get done with the Clean Water Act amendments and with the Clean Air Act amendments, we will have neither clean air nor clean water. We will find out that there are limits to the regulations that we can impose on companies and municipalities and individuals. And we must understand that part of our resource problem and pollution problem is, in fact, the undervaluation and misuse of our resources, and in some cases, the outright subsidization of the misuse of those resources by the Federal Government.

I think it is very clear that this committee can play a key, important, and central role to the future of our environment, to the reduction of pollution. I think it is also clear that this committee can help restore to the market system, if you will, the real value of our natural resources, so that those of us today will be good stewards of our resources for future generations.

I would hope that the committee would look at a few principles when considering their role in the protection of our environment. First, those who pollute the environment or exploit natural resources should be the first to make some downpayment on the cleanup and on efforts to restore those resources and their activities. Second, our tax policies should be consistent with existing Federal environmental policies. Third, tax policies that provide subsidies to individuals or corporations to undertake activities not consistent with wise resource use or other land protection policies should be eliminated or reduced. Finally, tax policies, that lead to excessive resource exploitation on public lands should be eliminated.

I would urge that your committee look for innovative ways in which we can use tax policies to address the current budget deficit dilemma and the growing demand for improved environmental policies. I think we should consider whether or not current subsidies ought to have imputed taxes to them. Congressman Stark has suggested this in the case of water subsidies, where we see that Federal policy and pricing policies encourage the wasteful use of what may be the most scarce resource, certainly in the Western United States. And Mr. Gibbons' State is going through a drought now and paying the price for that. Yet we find that in some instances the Federal Government actually encourages the wasteful use of that resource. That type of policy may, in fact, be the most limiting factor on economic development and growth in the West.

I would hope that you would consider something like a natural resource protection zone. This is sort of the flip side of enterprise zones. While we provide tax incentives for economic growth in urban enterprise zones, we would also make sure that we don't have tax benefits that encourage the development alongside of areas that we have decided to protect, such as national forests or wilderness areas or wild and scenic rivers. I would hope that we would use incentives to extend the protection to areas surrounding wetlands and old-growth forests and national parks and other scenic and conservation areas.

I would think also that you may want to consider the use of severance taxes. I know that this committee has had a long history with severance tax as have our States. We find that States currently impose severance taxes on the production within their borders. We get royalties, and we receive rents from our resources on Federal lands, but they are not commensurate with the real value of those resources. In fact, we find that we encourage, again, the unwise practices of mining those resources and the use of those resources.

I would hope, again, that if the issue of uranium enrichment raises its head this session as it did last, this committee would give very serious consideration to recapturing the subsidies that we have provided to electric utilities through the Federal uranium enrichment program.

Finally, I hope that the committee would continue its involvement in providing tax initiatives and incentives to encourage the protection and preservation of environmentally sensitive areas. You have done this in terms of helping people who have acquired land and donated it for the public trust and for the public use.

I have additional suggestions of other tax incentives that may help to supplement our Federal efforts at buying and preserving valuable lands for this country.

Also, I think at some point we have got to think of how we start to internalize the real cost of recycling, the real cost of landfills, the real cost of the wasteful habits of all of us. Through the use of the tax system, we should try to equalize out the disposal cost through the tax system of paper, of glass, of petroleum products, so that we encourage the most efficient use of those resources, encourage the recycling of those resources.

As you can see, the menu is long and varied for this committee. As I am sure you have already heard, it is also controversial. But I happen to think that in the coming decade it may be the most important—the most important—menu with respect to the long-term environmental enhancement of our Nation and the protection of our resources.

I have additional initiatives that I would like the committee to consider, but I will submit those for consideration along with my testimony. I appreciate very much the opportunity to testify and certainly the committee's willingness to spend its time on this subject.

Thank you.

[The statement of Mr. Miller follows:]

Testimony of Congressman George Miller
Before Committee on Ways and Means
March 14, 1990

Mr. Chairman, I want to thank you for the opportunity to testify before the Committee today. I also want to compliment you for holding these hearings.

Mr. Chairman, the use of the tax code is the most over-looked means available to improve the quality of our environment. Tax policy provides us with the means to protect sensitive land or resources from exploitation; penalize those who pollute or exploit; and, to raise revenue to finance clean-up efforts. This can be done without imposing burdensome regulations on the private sector.

In your deliberations, I would urge the Committee premise its actions on the following principles:

(1) Those who pollute the environment or exploit natural resources should be the first to make some down payment on clean-up efforts.

(2) Our tax policies should be consistent with existing Federal environmental policies.

(3) Tax policies that provide subsidies to individuals or corporations to undertake activities not consistent with wise resource use or other land protection policies should be eliminated.

(4) Finally, tax policies that lead to excessive resource exploitation on public lands should be eliminated.

I would urge your Committee look for innovative ways in which we can use tax policies to address the current budget deficit dilemma and the growing demand for improved environmental policies. To assist you, I would urge you to consider the following--

1. Sulfur Dioxide Tax. The Committee should consider imposing a tax on sulfur dioxide emissions, a major cause of acid rain. Nearly 25 million tons of this pollution is emitted annually. A tax on sulfur dioxide emissions could play a major role in encouraging cleanup efforts. Such a tax also could be a major revenue source. A report by seven environmental organizations estimated that a $830 per ton tax could raise $9.7 billion.

2. Taxing Water Subsidies. Federal water resource policy has provided water at highly subsidized rates for nearly 90 years. This policy has encouraged excessive water use and led to waste, and in some cases, severe water pollution problems.

I would urge this Committee to enactment legislation to include the value of the subsidy in gross income for those who receive water from Federal Reclamation projects. Congressman Stark has introduced legislation to do this and I would encourage its enactment.

3. Natural Resource Protection Zones. The Committee should consider the establishment of "Natural Resource Protection Zones." This concept would be the flip-side to the urban enterprise zone concept.

Urban enterprise zones have been suggested to encourage economic development in certain regions or areas. I believe we should consider establishing areas within which we discourage certain economic activities.

For example, why should we provide tax benefits to encourage development along wild and scenic rivers? On the one hand, we've enacted legislation to preserve and protect these river corridors. At the same time, we're providing substantial tax benefits to individuals or corporations to develop these areas. Why shouldn't we make these policies consistent?

I would also point out that the concept of Natural Resource Protection Zones could also extend to wetlands, old growth forests, national parks, scenic areas and other conservation units. As the committee with the primary jurisdiction over public lands and resources, the Interior Committee could work with you to identify opportunities for this concept.

4. Severance Taxes. This Committee should consider imposing a severance tax on both energy and non-energy mineral resources extracted from publicly owned lands. The list of resources extracted from public lands is substantial, including oil and gas, gold, silver, phosphate and many others.

Almost all State governments currently impose severance taxes on production within their borders. While the Federal government currently receives rents and royalties, these revenues are significantly below the value of the resources produced. A Federal severance tax on these resources could make up for this deficit. One report estimates we could raise $120 million through this means.

5. Uranium Enrichment. The Committee should give serious consideration to recapturing the subsidies we've provided to electric utilities through the Federal uranium enrichment program.

The Atomic Energy Act requires that the Federal government's cost of producing enriched uranium be fully recovered from utility customers. According to the General Accounting Office, the uranium enrichment program has not recovered over $9.6 billion in enrichment program costs. (See: "Uranium Enrichment: Some Impacts of Proposed Legislation on DOE's Program," GAO/RCED-89-170BR, July, 1989.)

I would urge the Committee to consider recapturing these subsidies from the utilities who have benefitted from them over a number of years.

6. Encouraging Land Donation and Acquisition. This Committee has in the past approved a number of tax initiatives designed to encourage the protection and preservation of environmentally-sensitive lands. Using these incentives, thousands of acres of ecologically sensitive land has been purchased or donated by The Nature Conservancy, Trust for Public Lands and other organizations, who in turn have made it available to government agencies.

These efforts have proven to be a valuable supplement to government land acquisition efforts at the Federal, State and local levels. I would like to encourage this Committee to consider a series of changes in the tax code which would encourage additional land protection efforts. My suggestions are included as attachment at the end of my testimony.

7. Encouraging Recycling of Paper Products. I would urge the Committee to give serious consideration to legislation providing incentives to encourage recycling of waste products. Each year, we recycle only a portion of the 160 million tons of garbage we produce. The remainder must be disposed of in landfills. While there are over 16,000 landfills today, more than one-half are expected to close in the next 10 years. In addition, new landfill sites are becoming increasingly difficult to locate. Using the tax code to encourage recycling will have a significant impact on encouraging recycling and easing the solid waste disposal crisis.

Mr. Chairman, I want to again compliment you on holding these hearings. I stand ready to help you and the other Members of the committee to find ways in which the tax code can be used to improve the quality of life for all Americans.

APPENDIX A
Conservation Tax Initiatives

1. Increase the allowable deduction for gifts of conservation land from the current level of 30 percent of adjusted gross income to 50 percent of adjusted gross income.

2. Replace the five year carryover for unused charitable deductions to an unlimited carryover for gifts of conservation land.

3. Allow an estate to satisfy its estate tax liability by making a donation of conservation land in lieu of the state tax payments.

4. Allow unused charitable contributions of conservation land to offset estate tax liability.

5. Allow a taxpayer to defer the tax on a sale of conservation land to a qualified conservation charity if the proceeds are reinvested in like-kind property within three years.

6. Exempt appreciation on gifts of conservation land from tax preference item treatment.

Chairman ROSTENKOWSKI. Thank you, Mr. Chairman. It is always a pleasure to have you before the committee. I certainly appreciate the observations you have made.

Without objection, all the material that you suggested will be included in the record.

Are there any questions of the subcommittee chairman? Mr. Gibbons.

Mr. GIBBONS. George, you present some good ideas. Let me bounce a couple of them off of you and see whether you would be willing to support them or not.

In my area, we have barrier islands that are being overdeveloped. In fact, they were overdeveloped by me, so I will take part of the blame for it. But what would you think of a tax disincentive, such as perhaps not allowing the deduction on your individual income tax for interest or taxes paid to develop barrier islands?

Mr. MILLER. Well, I think that is consistent with what I have suggested in terms of various quarters that we have determined are valuable. In the West, we don't deal with barrier islands, but we deal with wild and scenic rivers.

Mr. GIBBONS. Yes.

Mr. MILLER. Why should we then allow the Tax Code to provide incentives to develop those corridors once we have tried to save the river?

Mr. GIBBONS. Like the Suwannee River in my own area.

Mr. MILLER. Exactly. Your State has made a decision and others have made a decision about the value of those barrier islands. We should then bring the Tax Code into conformity or even provide a disincentive, if necessary, for the protection of those resources. We are not going to create any more of those islands. I think that is a responsibility that we have of stewardship. I would support that effort.

Mr. GIBBONS. How about developing on environmentally sensitive land? I have seen wetlands constantly being destroyed in my own State still by people just coming in, filling them first with a truckload of sand here, a truckload of sand there, and then finally submerging them with many truckloads of sand, and suddenly developing them. Should we prohibit the tax deductibility of interest and maybe local taxes on land like that?

Mr. MILLER. I think so, absolutely. I mean, your State is paying the price for past efforts to drain those wetlands, to channelize those rivers. You are going to be putting up billions of dollars to try to reverse that effort. We should not be subsidizing the continued exploitation of those areas.

Mr. GIBBONS. Well, let me show you how silly it is. About 125 years ago, the Federal Government gave the title to all those wetlands to the State of Florida, and the State of Florida sold them off for 25 cents an acre. We are trying to buy them back now. We will probably pay about $10,000 an acre, I would imagine. I don't know what it is going to cost to buy them back, but that is how farsighted we have been.

Thank you very much.

Mr. MILLER. Thank you.

Chairman ROSTENKOWSKI. Mr. Stark.

Mr. STARK. George, thank you. It is no small measure your encouragement in fighting the good water fight in our area and other environmental issues that certainly goaded me on to figure out ways that I could get some jurisdiction. I wasn't going to let you have all the fun. In so doing, we found—I guess what we have always known on this committee, that give us the right instructions, how you want people to behave, and we are pretty good at using the Tax Code to encourage that behavior, either positively or negatively. And I look forward to working with you and getting some more ideas as to how we can encourage people to do the right thing.

Thank you.

Mr. MILLER. Thank you.

Thank you very much, Mr. Chairman.

Chairman ROSTENKOWSKI. Thank you very much, George.

Our next witness, a joint presentation, as I understand it, from Mr. Lewis and Mrs. Boxer. Would you please take our witness stand?

STATEMENT OF HON. BARBARA BOXER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mrs. BOXER. Mr. Chairman, I would like first to ask that my testimony be placed in the record, and I will try to summarize it as quickly as possible.

Chairman ROSTENKOWSKI. Without objection, so ordered.

Mrs. BOXER. In addition, I would like to put into the record a letter which is signed by California Members of Congress of both parties calling for extension of the tax credits for alternative energy.

Chairman ROSTENKOWSKI. Without objection, it is so ordered.

Mrs. BOXER. Thank you.

[The letter follows:]

Congress of the United States
House of Representatives
Washington, D.C. 20515

March 14, 1990

The Honorable Dan Rostenkowski
1102 Longworth House Office Building

Dear Mr. Chairman:

We are writing because of our concern for the future of America's environmentally-sound, renewable energy technologies. As you know, federal energy tax credits for solar and geothermal electric generating facilities are scheduled to expire on September 30, 1990. We believe that the economic viability of these technologies is dependent on the extension of federal renewable energy business tax credits.

Unless the U.S. solar and geothermal energy industry is able to expand its domestic markets, it will be unable to compete favorably in the world market. The U.S. has invested millions of dollars in renewables research, but as the recent sale of Arco Solar to West German interests demonstrates, our renewables industry faces collapse without federal support for domestic commercialization. Over 170 companies nationwide manufacture geothermal and solar energy equipment and components or provide engineering services and coordinate development.

Of the various federal supports for renewable energy, tax credits have the most direct impact on the commercialization of renewable electric generating technologies. This incentive has enabled the renewables industry to respond to the country's energy and environmental needs by providing thousands of megawatts of electricity annually. The U.S. has not been alone in providing support for renewables; Japan and many other of our international competitors are using tax and other incentives to build their domestic renewable energy industries. Unfortunately, budget support for the U.S. solar industry alone has been cut 80% over the last eight years, while Japan and Germany have increased their solar funding.

As the nation attempts to address the problems of global climate change and polluted air, continued federal support for renewable energy will help reduce our dependence on environmentally-destructive fossil fuels. Present generation solar technology produces about one quarter as much carbon dioxide as natural gas, the cleanest fossil fuel alternative. The payback from federal support for renewables is readily apparent; the solar tax credit, which amounts to one half cent per kilowatt hour, results in carbon dioxide and nitrous oxide emission reductions valued many times greater under southern California's clean air enforcement plan.

We urge you to keep our domestic renewable energy industry competitive in the global market by extending the federal tax credit for solar and geothermal energy. As Earth Day 1990 approaches, let's send a strong signal to the nation that the Congress values and supports environmentally-sound energy technologies.

Sincerely,

BARBARA BOXER, M.C.

JERRY LEWIS, M.C.

DON EDWARDS , M.C.

CARLOS MOORHEAD, M.C.

NORMAN MINETA, M.C.

ROBERT J. LAGOMARSINO, M.C.

BILL LOWERY, M.C.

NORMAN D. SHUMWAY, M.C.

ANTHONY BEILENSON, M.C.

NANCY PELOSI, M.C.

DUNCAN HUNTER, M.C.

DOUGLAS H. BOSCO, M.C.

ELTON GALLEGLY, M.C.

CHARLES PASHAYAN, JR., M.C.

DAVID DREIER, M.C.

RON PACKARD, M.C.

GEORGE E. BROWN, JR., M.C.

VIC FAZIO, M.C.

ALFRED McCANDLESS, M.C.

LEON PANETTA, M.C.

Chairman ROSTENKOWSKI. Before you proceed, Mrs. Boxer, why don't I ask Mr. Foglietta—and is Mr. Bosco here? Mr. Levine, Mr. Chapman? I know that we are all busy. I think that how I would like to proceed is, Mrs. Boxer, if you would make your presentation, and if you feel that you would like to sit and wait until the conclusion of the other witnesses so that we can get into a discussion, that is fine. If, however, you have to leave, we understand that.

Would you begin, Mrs. Boxer?

Mrs. BOXER. Thank you, Mr. Chairman, very much.

This committee really holds the future of alternative energy in its hands, and that is why I am here today. Mr. Chairman, in less than 6 months, the Federal commercial energy tax credits for solar, geothermal, and ocean thermal electric generating facilities are scheduled to expire. We can point with pride to the technical accomplishments of the past several years, but I think it fair to say that any further meaningful growth of these applications is really dependent upon the extension of these credits.

Even though Federal support for renewable energy systems has been in a steady decline for the past decade, the existence of the commercial tax credits has provided some level of opportunity for the industry to attract the private capital so vital to its growth. In a marketplace where fossil fuel costs drive these prices, the low fuel costs of the past 10 years have made it difficult for the industry. Yet we can look at the dozens of technology improvements, the continuing cost reductions, and the dramatic industry breakthroughs of recent years and confidently say that the impact of these tax credits has been the single biggest impetus on the commercialization of renewable electric generating technologies.

Just 6 years ago, for example, Mr. Chairman, the life-cycle costs of electricity generated by solar thermal systems was 24 cents per kilowatt hour. Today that number has been reduced to just 8 cents per kilowatt hour, and we expect that to continue dropping more toward the 6-cent figure.

Economic factors alone, though, should not dictate our decisions on whether we approve the continuation of these credits. As you opened your statement, Mr. Chairman, you talked about the importance of the environment. I think it is important to note that at a time when the administration says it supports clean sources of energy and wants to emphasize environmental issues—indeed, the President wants to be the environmental President—we need to take whatever steps are available to us to implement nonpolluting power sources. In our State of California at the present time, for example, solar thermal electric generating facilities are saving more than 1½ million barrels of oil per year. And in a State where we are trying not to despoil the coast, we are trying not to drill all up and down California's coast for oil, this is very important. Solar technology has no combustion-related emissions. Even when you account for the use of backup fossil fuels to supplement the systems, our current solar technology produces only one-quarter as much carbon dioxide as natural gas, which is the cleanest fossil fuel alternative we have.

The United States can put a price on economic and environmental savings and how many barrels of oil these technologies can

save. But putting these significant numbers aside, Mr. Chairman, the solar energy tax credit will result in less carbon dioxide and nitrous oxide emissions and a clean environment that is worth even more to us than dollars and cents. Economic savings will help these industries grow and establish a solid base of operations in the next few years, and the environmental benefits will help ensure that the world of our children and their children will be safer and healthier.

Unless we take the steps now to ensure that these technologies continue to develop, we will lose the technological edge we have now. And by the year 2010, we will be importing renewable energy power sources much like we are importing fossil fuel today.

Mr. Chairman, it is important to note that countries such as Japan and West Germany are providing similar tax incentives as well as straight-out government support to solar and renewable energy technologies. And if we follow what is happening here, where Arco Solar was sold to a West German company, we can see the future if we do not go back and renew our support for these tax credits.

So, Mr. Chairman, I won't continue the rest of my testimony. You have it. But I really want to make the case as strongly as I can for these credits. I think by doing that you are helping the environment, you are helping us become energy independent, and you are using the Tax Code in a most positive way.

Thank you very much.

[The statement of Mrs. Boxer follows:]

BARBARA BOXER
6TH DISTRICT, CALIFORNIA

COMMITTEE ON THE BUDGET
HUMAN RESOURCES TASK FORCE CHAIRMAN

SELECT COMMITTEE ON CHILDREN, YOUTH, AND FAMILIES

COMMITTEE ON ARMED SERVICES
(ON LEAVE)

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Testimony of Rep. Barbara Boxer
Before the House Ways and Means Committee
March 14, 1990

In less than six months, the federal commercial energy tax credits for solar, geothermal and ocean thermal electric generating facilities are scheduled to expire. Even though we can point with pride to the technical accomplishments of the past several years -- with nearly 300 mega-watts of utility scale solar thermal electric generating capacity now on line, with geothermal facilities providing over 1500 mega-watts of power in many areas, and the promise of significant potential from ocean thermal plants in the years ahead -- I think it fair to say that any further meaningful growth of these applications is largely dependent on extension of the credits.

Even though federal support for renewable energy systems has been in a steady decline for the past decade, the existence of the commercial tax credits has provided some level of opportunity for the industry to attract the private capital so vital to its growth. In a marketplace where fossil fuel costs drive the prices, the low fuel costs of the past 10 years have made it very difficult for the industry to bring in private funds to support their growth and expansion. Yet we can look at the dozens and dozens of technology improvements, the continuing cost reductions, and the dramatic industry breakthroughs of recent years, and confidently say that the impact of the tax credits had been the single biggest impetus on the commercialization of renewable electric generating technologies.

Just six years ago, for example, the life-cycle cost of electricity generated by solar thermal systems was 24 cents per kilowatt hour. Today that number has ben reduced to just eight cents per kilowatt hour, and we expect that to continue dropping more toward the six-cents figure.

Economic factors alone, though, should not dictate our decisions on whether we approve the continuation of these credits. At a time when the Administration has said it supports clean sources of energy and says it has acute awareness of environmental issues, we need to take whatever steps are available to us to implement non-polluting power sources. In my state at the present time, for example, solar thermal electric generating facilities are saving more than one and one-half million barrels of oil per year. Solar technology has no combustion-related emissions. Even when you account for the use of back-up fossil fuels to supplement these systems, our current solar technology produces only one-quarter as much carbon dioxide as natural gas, which is the cleanest fossil fuel alternative we have, as well as just one-third of the nitrous oxide emissions.

The U.S. can put a price on economic and environmental savings and how many barrels of oil these technologies can save. But putting these significant numbers aside, the solar energy tax credit will result in carbon dioxide and nitrous oxide emissions and a clean environment that is worth far more to us than dollars and cents. Economic savings will help these industries grow and establish a solid base of operations in the next few years. The environmental benefits, though, will help ensure that the world of our children and their children will be safe and healthy.

Unless we take the steps now to ensure that these technologies continue to develop, we will lose the technological edge we have now, and by the year 2010 we will be importing renewable energy power sources much like we are importing fossil fuel today.

At the present time, we are engaged in debate over clean air and the need to cut harmful emissions. Solar energy and the other renewables available to us can plan active roles in displacing the fuels causing these emissions.

Finally, keep in mind that we must have patience for these technologies to grow and mature. They have come a long way in recent years, and our support of this tax credit extension will help them develop even further. They are making progress that is paying dividends already, but further development will mean even more to us.

Until we commit to extending the energy tax credits beyond their September 30 expiration date, we leave an air of uncertainty that will hang over these industries much like the polluted air hanging over our cities from coast to coast. It is imperative that Congress extend the credits, and provide this show of support to an industry that will help us solve many of the difficult problems we face.

Chairman ROSTENKOWSKI. Thank you, Mrs. Boxer.
Mr. Lewis.

STATEMENT OF HON. JERRY LEWIS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. LEWIS. Thank you, Mr. Chairman and members.

Mr. Chairman, let me say, this is my first opportunity in the decade I have been here to have the chance to make a presentation before your committee. I do so only because the issue that Barbara and I are here together to support is critical to the interests of California. I am also here because my district is one of the areas where a significant piece of alternative energy development will take place if we are to continue to lead the country and the world in connection with the development of solar energy. Indeed, the purpose of my testimony is to express my very strong support for a multiyear extension of the Federal solar tax credit.

Mr. Chairman, my interest in alternative energy goes back a number of years to when I had the privilege of being the chairman of a select committee dealing with air quality in California. We tried to develop policies that would encourage a pattern of reducing air pollution, especially in southern California. The impact of various fossil fuels in our region is obvious if you will only visit my district in July and August each year.

The fact is that alternative sources of electrical energy are a very, very important means of reducing the use of crude oil throughout the Western States. In southern California, the impact of solar energy development is only one form of alternative energy. For those of you who visit Palm Springs, you may have noted, as you drive from Los Angeles to the east, the development of a new form of wind energy as an alternative source. Some energy sources have more potential than others. I look at those literally hundreds and hundreds of windmills on the horizon around Palm Springs and I wonder about that source in terms of its viability as we express our concern about the environment.

You look at those windmills, and you see them standing still most of the time. The energy experts tell me that at about 4 or 5 o'clock in the afternoon they are turned on because their purpose is to help supplement the grid during peak hour use.

Insofar as energy alternatives are concerned, I first became interested, as a new Member here in the House, shortly after you had passed the solar energy tax credits in 1978. Southern California Edison was involved in building a new plant that essentially developed solar energy driven by reflectors. That was our beginning of active interest in production in this field. Today, the LUZ Corp. within my district, is producing what will one day be an immense capacity in terms of solar energy production.

I must say that none of this would have been feasible without the kind of tax incentive that your committee has provided. It is a very expensive process to provide the infrastructure and capital expenditure involved. It is expensive development as a practical fact of life. But in terms of our future, if we are going to have energy sources that free us from total dependence upon other parts of the

world, indeed, free us in terms of flexibility for energy development—the work that you do in this committee is fundamental.

These tax credits have played a key role in breakthroughs in basic research that have made a very, very big difference in terms of our energy future. I encourage you to continue the extension of those credits whereby we give our support for continued work in this field.

I thank you, Mr. Chairman.

[The statement of Mr. Lewis follows:]

STATEMENT OF THE HONORABLE JERRY LEWIS
BEFORE THE HOUSE WAYS & MEANS COMMITTEE
LONG-TERM ENVIRONMENTAL STRATEGY HEARING
March 14, 1990

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE: I am delighted to be here today to make a contribution to this Committee's efforts to develop a long-term strategy for using the federal tax system to improve our environment. I wanted to add to the record my very strong support for a multi-year extension of the federal solar tax credit-- an energy tax credit which was first enacted in 1978.

The current federal solar tax credit will expire on September 30th of this year. The naysayers will tell you that the solar credit was a response to the energy crisis circumstances of 1978 and that such incentives have no place in the tax code of the 1990s. To those with such doubts I say, there will never be a time when this country does not need to encourage a clean and renewable energy source for the generation of electrical power.

I represent an area where the sun truly is a natural and renewable resource -- with potential that is only starting to be tapped. Over the past decade I have watched a developing solar industry take shape, and I am pleased to report that significant progress has been made. Research and development has increased our understanding of the technology needed to utilize these resources. But research and development funding are rarely able to help a new technology bridge the gap between the laboratory and the marketplace.

The solar energy tax credit has been the true catalyst to create a new industry. This tax credit has been the single most effective policy tool in our long-term effort to harness the power of the sun to generate electric energy.

Today, twelve years after the initiation of the federal solar tax credit, there is a company--LUZ International--which operates from my congressional district with a generating capacity of nearly 300 megawatts. That represents 90% of the solar generated electricity worldwide and yet it is an amount that would probably only sustain a single major city such as Washington D.C. in a normal operating year.

Luz operates eight solar energy generating systems. When they started, they were building 13.5 megawatt power plants. Their latest system (SEGS VIII) is an 80 megawatt solar power plant. In its estimated 30 years of facility life, the renewable energy it generates will reduce our bill for imported oil by $280 million. Each year this new unit operates, it will reduce carbon dioxide emissions by 325 million pounds. During the same time period an 80 megawatt solar power plant also reduces nitrogen oxide emissions by 164 tons. To put it another way, a solar thermal generating plant operates with one third the emissions of a state-of-the-art natural gas power plant and, by all accounts, natural gas is the cleanest of all fossil fuels.

Solar generators operate at a substantial disadvantage when compared with their competitors who operate utilizing fossil fuels. But in very different circumstances than those which prevailed in the energy crisis of 1978, they have survived. They have done so by adapting to the market.

The private investor who is asked to back solar energy does so in bearish conditions. Today, at relatively high interest rates, the investor is asked to back a relatively capital intensive product which can compete in the long-run only if the long-term price of fossil fuels continues to rise.

The ability of the solar industry to overcome these hurdles and generate the needed investment is a tribute to the solar tax credit-- a credit which not only meets the needs of this industry but which, for all intents and purposes created the industry. Without the additional incentives, an industry which has reduced its costs from 24 cents a kilowatt hour to 8 cents an hour would still be unable to stay in business because those who generate with fossil fuels can do so at a cost of about 6 cents a kilowatt hour. The credit, over the 30 year life of a solar facility, would reduce costs by about one-half cent per kilowatt hour.

Their survival in my area is also due to the sound instincts of the utilities like Southern California Edison. They have taken the risk that the industry would reduce its costs and made a 30 year commitment to buy approximately 600 megawatts of solar generated electricity. Such long-term decisions reflect the comparative operating costs but they also factor in the benefits of reducing the environmental degradation caused by our continued dependence on fossil fuels.

LUZ has plans for at least four more of these 80 megawatt solar electrical generating systems. Any decision they would make about continued growth depends on your foresight and willingness to encourage such solar capacity. Should you decide to make these credits part of your strategy for the future, a credit which lasts longer than nine months would add needed stability to the constantly changing market conditions which face this important renewable energy industry. In my view, such a decision would be a wise one because it incorporates a truly healthy blend of both environmental and economic considerations.

Chairman ROSTENKOWSKI. Mr. Foglietta.

STATEMENT OF HON. THOMAS M. FOGLIETTA, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF PENNSYLVANIA

Mr. FOGLIETTA. I thank you, Mr. Chairman.

Mr. Chairman and members of the committee, it is a privilege to come before you to participate in your hearings on the long-term environmental impact of tax policy. I would like to summarize my remarks here and ask that my full text be included in the record.

In particular, I wish to applaud Chairman Rostenkowski for devoting the time to examine the Tax Code from this critical perspective. We must use every weapon in the Federal arsenal to clean up the environment, including our Tax Code.

On a different note, I would also like to commend the chairman for the courage that he showed this past week on another issue of critical importance; namely, reducing the national deficit.

Lou Gambaccini, chief operations officer and general manager of SEPTA, Philadelphia's mass transit system, was scheduled to be here with me today. He is absent because of a tragedy which occurred in the city of Philadelphia last week. Three people died when an el train derailed. I express my sadness over this disaster and my sympathy to the members of those families. If Mr. Gambaccini had been able to be here today, I am sure that you would have profited from his testimony.

I am here to discuss H.R. 3631, a bill which I introduced on November 9, 1989. My bill would equalize the treatment in the Tax Code of employer-provided benefits for parking and monthly transit passes.

Consider this obvious inequity: A highly paid executive drives to work alone in a company-owned Cadillac and parks in a parking space worth $2,400 a year. The executive does not pay a penny of tax on that generous fringe benefit.

A secretary, on the other hand, who uses an employer-provided bus pass to commute, must pay taxes on the full benefit if the bus pass is worth more than a meager $15 per month. The tax system of this country should treat these fringe benefits equitably and fairly by taxing both benefits or by taxing neither.

In addition, the environmental side of the issue provides compelling arguments for this change. Automobile exhaust is one of the main sources of air pollution. More and more people are driving, increasing the amount of exhaust that is pouring into the air. This means that revising the Clean Air Act is necessary merely to preserve the status quo with regard to air quality. To actually improve air quality, we should also remove the disparity in the Tax Code that encourages people to drive to work rather than use mass transportation.

As the Tax Code stands now, we might as well send a chauffeured limousine to people's houses in the morning to drive them to work. For the $1 billion the parking fringe benefit costs the Treasury each year, we could almost afford to do that.

As the committee contemplates long-term effects of tax policy on the environment, I hope you will seriously consider the legislation that I have introduced. As a first step in that direction, I request

that you direct the Joint Tax Committee staff to conduct a study of the revenue implications of my bill and similar other proposals.

Mr. Chairman, I look forward to working with you and your committee to bring equity and fairness to our policy on fringe benefits for commuters. Doing so will also bring important environmental benefits to our metropolitan areas.

I thank you for this opportunity to testify this morning.

[The statement of Mr. Foglietta follows:]

Testimony of Hon. Thomas M. Foglietta

Member of Congress

Mr. Chairman and members of the committee, it is a special privilege to come before you this morning to participate in your hearings on the long-term environmental impact of tax policy. In particular, I wish to applaud Chairman Rostenkowski for devoting the time to examine the tax code from this most important perspective. We must use every weapon in the federal arsenal to clean up the environment, including the tax code.

I am here to discuss H.R. 3631, a bill I introduced on November 9, 1989. This bill would equalize the treatment in the tax code of employer-provided benefits for parking and monthly transit passes.

Under current law, an employer-provided mass transit pass is considered a de minimis fringe benefit, which means that it is taxed as income if it is worth more than $15. An employer-provided parking space, on the other hand, is considered a working condition fringe benefit, and is not taxed, no matter what the value. My bill would eliminate this disparity by making employer-provided transit passes working condition fringe benefits.

My bill is similar to legislation introduced by other Members, including Representatives Rangel and Matsui, two very distinguished members of this committee. The primary differences between these pieces of legislation come in two areas--first, whether or not it covers van pooling, and, second, whether or not the legislation sets a limit on the value of the transit pass or van pool that would be non-taxable. While my bill does not include provisions making employer-provided van pooling a working condition fringe benefit, I am supportive of such a provision.

On the subject of limits, transportation obviously has many uses. A monthly pass provided by an employer would not be limited to commuting to and from the workplace. In other words, a person provided with such a benefit could use the pass for leisure activities. Hence, I see the point to setting a limit on the value of the transit pass that would be tax-free.

The same possible abuse, however, exists with the employer-provided parking spot. What I do not think is fair, or sound environmental policy, is limiting the value of transit pass that would be tax-free, but not the value of the parking benefit. You would eliminate some of the disparity that exists now, but you would still provide an incentive for people to drive to work.

Mass transit is an environmentally-sound economic lifeline, linking people and jobs in my city of Philadelphia. The extensive subway, bus, commuter rail and trolley network in Philadelphia allows most workers in Center City Philadelphia a viable option of leaving their cars at home. I know that mass transit systems in cities like Chicago, New York, Boston, and Washington serve a similar purpose.

Yet, consider the obvious inequity: a highly paid executive drives to work alone in a company-owned Cadillac and parks in a parking space worth $200. That executive does not pay a penny of tax on that fringe benefit.

However, a secretary, who rides the bus to and from work, at best receives only a $15 per month subsidy tax-free. To add insult to injury, if the transit pass is worth a penny over $15, the secretary has to pay taxes on the entire value of the pass. Thus, even this small tax benefit is irrelevant to most of my constituents, and I am sure to most of yours. (For example, a monthly Transpass in Philadelphia now costs $55. A monthly pass to ride the "L" in Chicago costs $50.)

The tax system of this country should treat such fringe benefits equitably and fairly.

In addition, the environmental side of this issue provides compelling arguments for a change. How would my bill affect the environment?

This committee and all of us recognize that automobile pollution contributes significantly to air pollution. Most of our carbon monoxide problems and a large portion of our ozone problems are caused by automobile exhaust.

In revisions of the Clean Air Act now pending, we have the opportunity to address this problem by putting tougher emissions standards on cars. But that is not enough.

If the current trends continue, the growth in automobile travel will make reduced emissions necessary merely to preserve current air quality. Improving air quality requires prompt additional action beyond any revisions to the Clean Air Act that may occur this year.

One of these actions should be to remove the disparity in the tax code that encourages people to drive to work. We might as well be sending a chauffeured limo to people's houses in the mornings to pick them up. For the $1 billion the parking fringe benefit costs the treasury each year, we could almost afford to do just that.

As the committee contemplates the long-term effects of tax policy on the environment, I hope that you will seriously consider the legislation that I have introduced. As a first step in that direction, I request that you direct Joint Tax Committee staff to conduct a study of the revenue implications of my bill and other similar proposals. The availability of cost estimates would allow the committee to make an informed judgement on the costs and benefits of my proposal versus current law.

Mr. Chairman, I look forward to working with you and your committee to bring equity and fairness to our policy on fringe benefits for commuters. Doing so will also bring important environmental benefits to our metropolitan areas.

I thank you for the opportunity to testify this morning.

Chairman ROSTENKOWSKI. Thank you, Mr. Foglietta.
Mr. Chapman.

STATEMENT OF HON. JIM CHAPMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. CHAPMAN. Thank you, Mr. Chairman. I appreciate this opportunity to testify before this committee and would join my colleagues in commending the chairman for what I think are some bold and positive new initiatives in the area of deficit reduction.

I would like to speak today about an issue that is crucial to many oil and gas producers in Texas, as well as my district, and that is about restoring the 50-cent-per-thousand-cubic-feet tax credit under section 29 of the Internal Revenue Code for tight sands production. If we are going to clean up our environment, if we are going to be serious about clean air in this country, one of the things we can do is to encourage through our tax policy increased use of natural gas, the cleanest burning fuel that we have. This important tax credit is being lost by the interaction of natural gas decontrol legislation, FERC regulatory initiatives, and the enabling language of the legislation that granted the tax credit in the first place.

The credit, as you know, was enacted as a part of the windfall profits tax of 1980. A gas that qualified for this credit that was produced was intended to continue to receive the credit until the year 2000, or until the gas was deregulated. However, gas decontrol has created the anomalous situation of removing the tax credit from tight sands natural gas wells, and thus making the credit unavailable to tight sands production. For our national energy security, for a clean environment, we should extend that tax credit. In fact, I do not believe it was the intention of either the regulators or the Congress to see that credit end at this time.

There is a clear correlation between the tax credit, the drilling of new gas wells, and finding new reserves. In fact, in 1978, when this tax credit was granted, there were only 186 natural gas wells in the country produced from the tight sands formation. By 1986, there were over 3,800 of those natural gas wells, over 1 trillion cubic feet of natural gas. Six percent of our total supply has been found in these hard-to-reach formations.

The credit has proven to be an important incentive for high-risk tight sands exploration, and without restoration of the credit, much of the gas simply cannot be economically brought to market under the prevailing prices. This extension should be made permanent or, if not permanent, extended for at least 5 years. In addition, the restrictions on tight sands gas production should also be eliminated.

With the current widespread concerns on clean air, we should do what we can to encourage the production of the natural gas, the cleanest burning fuel we have. Natural gas is simply one of the cleanest fuels that is available for production of electricity, for heating, and also now for transportation.

This is an energy security issue, as well as an environmental issue. The supplies of domestic natural gas are abundant and the potential is especially impressive, when one takes into account the reserves available with unconventional recovery techniques. Oil imports in January soared past the 50-percent mark, and 23 percent

of those imports came from the Persian Gulf. We continue to increase our reliance on foreign oil and we need to do something to reverse that policy. Our tax policy in the energy area should be one of the cornerstones of our national energy policy and clean air legislation.

I urge this committee to give favorable consideration to legislation to extend the section 29 credit and to restore the benefits of the credit to tight sands gas production. It makes sense to encourage the domestic production of natural gas, a fuel that has the potential of providing abundant, cheap, and clean energy for many years to come.

Mr. Chairman, I appreciate this opportunity to testify before your committee.

[The statement of Mr. Chapman follows:]

Statement of Congressman Jim Chapman
Before the
Committee on Ways and Means
March 14, 1990

I would like to speak about an issue that is crucial to many producers in my District and to the gas industry in general: restoring the approximately 50-cents-per-thousand cubic feet tax credit under Section 29 of the Internal Revenue Code for tight sands gas production. This important credit is being lost by the interaction of natural gas decontrol legislation, FERC regulatory initiatives, and the enabling language of the legislation granting the tax credit.

As you know, the tight sands credit was enacted as part of a package of incentives for "unconventional" fuels in the Windfall Profits Tax of 1980. The credit would apply to gas from wells spudded before January 1, 1991 and after July 1, 1979. In addition, the Act required that tight sands gas must be regulated under the Natural Gas Policy Act of 1978 in order to receive the credit. Gas from qualifying wells was intended to continue to receive the credit until the year 2000 or until the gas was deregulated.

Unfortunately, the Section 29 credit will expire for wells drilled after the end of this year. In addition, natural gas decontrol has created the anomalous situation of removing the tax credit from tight sands natural gas wells and thus making the credit unavailable to tight sands production. I think it is important, both for our nation's energy security and for the benefit of our environment, to extend the credit and make it once again applicable to tight sands gas wells.

There is a clear correlation between availability of the tight sands tax credit, drilling new wells, and finding new reserves. The credit is cost effective because it is only based on the amount of production actually sold into the market during the initial phase of a well's life. If a well is unsuccessful, all of the risk of drilling stays with the producer. Much of the tight sands resource base consists of well-known, shallower reservoirs close to existing pipelines. The gas therefore can be placed into the market more efficiently than is often the case with the product of exploratory drilling. Since the creation of the credit, it has proven to be an important incentive for the high-risk tight sands exploration. Without restoration of the credit, much of the gas simply cannot economically be brought to market with current prevailing prices.

I believe that the Section 29 credit is a vital incentive for production of natural gas and should be extended for new wells and qualifying production. The extension should be, if not permanent, then for at least five years to provide for balanced, planned development of fuels from nonconventional sources in the near term. In addition, the restrictions on tight gas production should be eliminated. These restrictions include the requirement that qualified tight sands gas be price regulated and that the maximum lawful price under the Natural Gas Policy Act be 150% of the applicable price under the Act's Section 103.

With the current widespread concerns on clean air, we should do what we can to encourage the production of clean-burning natural gas, including gas obtained from tight sands formations. Natural gas is simply one of the cleanest fuels readily available for production of electricity, for heating, and potentially for transportation.

This is an energy security issue as well as an environmental issue. The supplies of domestic natural gas are abundant, and will last well into the next century. The natural gas potential is especially impressive when one takes into account the reserves available with unconventional recovery techniques. Oil imports in January soared over 50%, and 23% of those imports came from the Persian Gulf — a 3% increase over last year's percentage of Persian Gulf imports.

I urge the Committee to give favorable consideration to legislation to extend the Section 29 credit and to restore the benefits of the credit to tight sands gas production. It makes sense to encourage the domestic production of natural gas, a fuel that has the potential of providing abundant, cheap and clean energy for years to come.

Chairman ROSTENKOWSKI. Thank you, Mr. Chapman.
Mr. Bosco.

STATEMENT OF HON. DOUGLAS H. BOSCO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. Bosco. Thank you, Mr. Chairman. With your permission, I will just summarize my testimony.

Chairman ROSTENKOWSKI. Would you suspend, Mr. Bosco?

What I have done, gentlemen, I have explained to the panel that if you are busy and you want to make a statement and then retire, it is up to you. If you would like to sit here and wait for questions, that's perfectly all right. It is entirely up to you.

Mr. Bosco.

Mr. Bosco. Thank you, Mr. Chairman.

I am here to address a proposal by Congressman Stark relative to old-growth redwood. I represent a district that produces almost all of the redwood in the world and, as you might imagine, the harvest of redwood trees is a very contentious, controversial matter, one that I have dealt with for well over a decade.

Most of the remaining old-growth redwood stands in our country are protected by State and national parks already. In fact, the Treasury just settled on a final price for the Redwood National Park containing some 100,000 acres of trees. At $1.4 billion, it is the most expensive park in the world, more costly, in fact, than all of the other national parks combined. It is also one of the least visited national parks.

The remaining stands of old-growth redwoods are virtually isolated and unavailable for the public for use as parks or the more traditional recreational areas. In some cases, however, they may be valuable for wildlife and for other natural uses.

I believe that Mr. Stark's proposal of an excise tax on these remaining trees would be counterproductive. For one thing, some of the trees really should be saved and the tax implies that the Government believes that it is perfectly permissible to cut them, as long as someone pays the tax for them. I think a better, more productive way of preserving these old-growth trees would be to encourage the private owners of them to maintain them into perpetuity, with tax benefits. I think this is something that we should work on. We could probably get the support of the owners of these trees and protect them, as Mr. Stark obviously, that is his goal and I would recommend that to the committee, rather than a punitive tax such as currently being considered.

Thank you.

[The statement of Mr. Bosco follows:]

CONGRESSMAN DOUGLAS H. BOSCO

TESTIMONY BEFORE THE HOUSE WAYS AND MEANS COMMITTEE

REGARDING OLD GROWTH TIMBER TAX PROPOSAL

MARCH 14, 1990

Mr. Chairman:

I come from part of the county that produces redwood lumber, premium wines and geothermal steam power -- three areas of interest to your committee. Without the attention of the federal government, the economy of our region is fragile at best; with the help of some of the proposals before your committee, we could easily slip back into the 20% unemployment rates we suffered through the early 1980's.

The California North Coast has produced redwood saw logs for well over a century. Most of our forests have been logged once, many twice, some three times. Since redwood is one of the fastest growing species in the world, visitors to our area often mistake a forty or fifty year old tree for a so-called old growth tree (lately called "ancient trees" by the environmental movement). In many instances, the younger second growth trees are bigger and taller than the old growth.

Most all of the remaining old growth redwood is permanently protected in state and national parks. In fact, the Treasury just settled on a final price for the Redwood National Park, containing some 100,000 acres of trees. At $1.4 billion, its the most expensive park in the world -- more costly, in fact, than all of the other national parks put together. It's also one of the least visited national parks.

For the most part, remaining stands of old growth redwoods are in isolated areas not suitable for parks or public access. Since these trees are no longer producing wood fiber to any appreciable extent, foresters generally want to replace them with younger trees that are more productive. Some of these larger trees provide shade cover, inhibiting the growth of younger trees. Redwoods regenerate best from the stump, but only if exposed to direct sunlight and heat.

In some areas the protection of wildlife makes it perfectly appropriate that old growth stands be saved from harvest. At present, we are looking at a stand of some three thousand acres owned by the Pacific Lumber Company along Salmon Creek in Northern California. The company has voluntarily agreed not to cut these trees, pending a review of various options. For the few remaining stands such as this, where wildlife or other values arguably predominate economic factors, Mr. Stark's proposal of an excise tax is counterproductive.

Implicit in the tax is the approval of the government for cutting, so long as the tax is paid. Since these trees contain such extraordinary volume of board footage, anything less than a confiscatory tax would be unlikely to prevent their harvest.

I would encourage the committee to take another approach. With the help of industry and environmental leaders, let's establish criteria for old growth stands that have integrity and value for wildlife, the forests, or other public purposes. We should then extend tax benefits or incentives for private owners who agree to maintain these trees in long-term protection. A less punitive and more positive approach than that envisioned by the proposal before your committee would achieve better results without the anger and arguing that might otherwise ensue.

Relative to geothermal steam, I encourage your committee to maintain the existing energy tax credits. At a time when Germany and Japan are increasing investment for renewable energy and at a time when our own dependence on foreign oil is skyrocketing, it would seem foolish to cut the budget for solar and other renewable energy sources by up to 80% as we have done.

Public concern over air pollution, global climate change, acid rain and other environmentally destructive energy-related trends would dictate that we provide whatever incentive we can for the renewable's industry. Since our energy policy is driven only by market forces at present, the type of innovation and experimentation required by this industry would unlikely happen without at least the existing tax incentives.

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Chairman ROSTENKOWSKI. Thank you, Mr. Bosco.
Mr. Levine.

STATEMENT OF HON. MEL LEVINE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. LEVINE. Mr. Chairman, thank you very much for the opportunity to testify before your committee today.

I am pleased to join with my colleagues in testifying on obviously one of a series of hearings looking at long-term policy strategies, and I want to simply, for the record, hold your foresight and initiative and that of this committee in very high regard in looking at these issues, because it is clear that the nineties will be the decade of the environment.

Mr. Chairman, today I want to briefly address two issues—extension of the solar energy tax credit and tax incentives for air pollution control. I think that each of these issues speak to the critical need for aggressive energy planning and pollution control, while at the same time recognizing realistic economic constraints.

The solar energy tax credit, Mr. Chairman, has played a critical role in the evolution of this clean, renewable energy source. I happen to be personally very familiar with the benefits of the tax credit, because as chair of the energy subcommittee in the California Legislature, I coauthored the State's solar energy tax credit and authored the Solar Rights Act and the Energy Conservation Tax Credit Act in California.

Since 1978, the Federal solar tax credit has been the train that brought utility size solar technology to the marketplace. The tax credit has provided the economic margin necessary for project financing. These tax credits have made it possible for significant advances in solar technology over the past years, in spite of low fossil fuel prices and high interest rates.

The cost of fossil fuel generation typically determines the maximum price the market will bear for solar electricity, and without tax credits, low fossil fuel prices could render new solar facilities to be marginal investments, at best.

The solar tax credit gave a new industry a chance to prove its technology could work. The solar industry has used the opportunity well, successfully developing projects and heavily investing in R&D, without the benefit of an R&D tax credit.

The result is that today solar technology has proven to be reliable and well integrated into the utility grid. Most importantly, with a life-cycle cost of 8 cents per kilowatt hour, it is now nearly competitive with fossil fuel generation, without the tremendous cost to our environment.

Mr. Chairman, under present market conditions, the Federal solar energy tax credit remains essential and I, therefore, am here to strongly urge that it be extended to ensure that the industry is able to reach its maturity.

Let me shift, then, quickly to one other issue I would like to bring to your attention. In the coming months, Congress will hopefully conclude its work on a new Clean Air Act. I plan to support the toughest possible measure to eliminate this Nation's air pollution problem. Meanwhile, in California, the South Coast Air Qual-

ity Management District has adopted the most ambitious air pollution control plan ever written for the Los Angeles Basin.

The capital costs of reducing emissions may turn out to be more than some small- or medium-size businesses can bear and these businesses may be unable to absorb the costs to compete, after having passed them on to their customers, and this would translate into lost jobs within the framework of trying to do something extremely important for the environment.

To address this problem, I am proposing that the committee consider a limited and narrowly targeted investment tax credit. The credit would apply only to investment in air pollution control equipment and only in those areas with severe air pollution problems that would face the greatest economic hardship. In addition, the credit would be available only for limited-size dollar investments.

Several economists in California have offered an initial analysis of this concept that estimates 80,000 permanent jobs could be saved by it in the Los Angeles area alone. While the cost of this credit might be significant, as investments in pollution control equipment would be spread over a decade, so too would be the cost of the proposal.

A limited tax credit for investments in pollution control equipment would help prevent the exportation of both jobs and pollution. It would also create an important economic incentive for the tough environmental protection that is often difficult to achieve by regulation alone.

Mr. Chairman, again I want to thank you for the opportunity to share my thoughts with you on these two issues and I am delighted that you are considering the environment in the context of long-term policy strategies, and if I could be of any assistance in the deliberations of you and your committee, I would hope to be able to do so.

I want to thank you again for your help.

Chairman ROSTENKOWSKI. Thank you, Mr. Levine.

Thank you all for joining us this morning and giving us the benefit of your observations.

Are there any questions of the witnesses?

[No response.]

Chairman ROSTENKOWSKI. Anything further you would like to add, any comment you would like to make, any suggestion you want to make as to how to raise taxes? [Laughter.]

Thank you very much. It has been a pleasure.

Mr. Mortimer Downey, Ms. Janis Pierce, Mr. Shetz, Mr. Cook, and Mr. Pickrell. Welcome to the committee, ladies and gentlemen. It is always a pleasure to have you share with us your views. I think you all—some of you have been here before, I am sure. We would like for you very much, if your testimony is longer than the time allocated to you, we would like very much for you to summarize it. However, without objection, your entire statement will be included in the record.

We usually have each individual give his testimony, then at the conclusion of the testimony we will ask questions or you can generate some discussion yourselves if you would like. The limitation as you all know is 5 minutes.

If you would like to begin, Mr. Downey. If all of you would please identify yourselves for the record as you proceed into your testimony, we would appreciate it. Mr. Downey.

STATEMENT OF MORTIMER L. DOWNEY III, CHAIRMAN, SUBCOMMITTEE ON FEDERAL TAX POLICIES, AMERICAN PUBLIC TRANSIT ASSOCIATION, AND EXECUTIVE DIRECTOR AND CHIEF FINANCIAL OFFICER, METROPOLITAN TRANSIT AUTHORITY, NEW YORK, NY, ACCOMPANIED BY JANIS VAUGHN PIERCE, VICE PRESIDENT, GOVERNING BOARDS, AMERICAN PUBLIC TRANSIT ASSOCIATION, AND COMMISSIONER, MEMPHIS, TN, AREA TRANSIT AUTHORITY

Mr. DOWNEY. Thank you, Mr. Chairman.

I am Mortimer Downey, chairman of APTA, the American Public Transit Association's Tax Policy Subcommittee, and the executive director and chief financial officer of the MTA in New York. I have a written statement which we would ask to have included in the record.

I am here on behalf of APTA's 400 transit systems and our over 400 associate members to make one point: Public transit is good for the environment. Anything that can convince more people to use transit instead of driving their own cars will reduce air pollution and benefit the environment.

Our Transit 2000 Task Force of APTA recently completed a thorough analysis of our Nation's long-term public transit needs, including ways that transit can benefit the environment. We studied ways in which the transportation systems could be improved, ways in which we could begin to overcome the deficiencies in our infrastructure that have accumulated over the decades.

To meet those goals, APTA recommended an increase in the Federal gasoline tax with 7 cents of that increase to be dedicated to finance the future Federal transit programs. Such an increase would restore 1981 funding levels and help transit systems increase their share of national travel.

We also recommend that employer subsidies for their employee mass transit and vanpool work trips be treated as a nontaxable fringe benefit. This, too, is an effective way to promote environmentally beneficial transit use.

Finally, we advocate Federal tax laws which facilitate access to the municipal bond markets by public transit systems and which will promote private involvement in transit facilities and service.

The overall issue we look at is the fact that the increase in vehicle travel in this country and in its metropolitan areas is outstripping the emission reductions that have occurred from stricter tailpipe standards. In other words, as more autos are used, this is offsetting any benefits in terms of pollution that have been put in place by new technology.

The only way to avoid those increases is to find ways to stem the growth in the vehicle miles of travel, and if we are not to limit people's mobility—and we should not do that—we must encourage higher average vehicle occupancy, and we propose three areas of tax law change to help accomplish that mission.

As I previously stated, the first would be an increase in the gasoline tax, earmarked in part for transit purposes. With that, the backlog of reinvestment needs could be met. We would set goals to vastly increase ridership and the benefits would be not only environmental, but economic. We believe that this is a valid Federal purpose, that a national program is needed to promote national economic and environmental goals and ensure that local areas are making long-term plans that coincide with national priorities.

I would be remiss in this point if I did not mention the so-called surpluses in the highway and mass transit trust fund, which some have looked to and suggested as a means of enhancing these programs without new resources. Indeed, there are dollars there and they could be put to somewhat more productive use, but it would only account for a modest increase in the program. It is not a substitute for real funding, as we spell out in our statement.

Your committee could also support clean air by acting on the transit pass issue concerning tax treatment of employee vanpools and public transit, as they compare to the present tax treatment of auto parking and auto use. We urge that the Tax Code be restructured to increase substantially the exclusion for transit passes and the benefit for vanpools.

At present, the tax-free benefit for parking averages $58 a month or $696 a year in the Nation's urban areas. In my city, New York, parking can be as high as $550 a month or $6,600 a year, and all of that can be provided tax free to employees. This is quite a contrast to the maximum $15 a month exemption for a transit pass.

Lastly, in terms of municipal finance, we are concerned about local contributions to the building of our transit systems. We want to do that effectively and we support the removal of several restrictions that now exist on access to the municipal markets in the case of transit financing.

We welcomed the arbitrage rebate relief that occurred last year that made life simpler for us in the investment of bond proceeds, although we suggest a couple of revisions of that to make clear the intent of the legislation, and we encourage another look at the way private enterprise involves itself in activities and the financing of projects that involve public-private partnership to provide infrastructure.

We are concerned about the ability of our systems to provide adequate insurance coverage and look to the bond market as one means of doing that. And lastly, we urge that the committee consider measures that will preserve both individual and corporate demand for municipal securities.

In conclusion, APTA encourages you to help clean up the air, by ensuring that the Tax Code provides stable, increased Federal support for transit, provides incentives for commuters to use transit, and enables State and local governments to fund transit projects in the municipal bond market.

We look forward to working with the committee members to adopt these proenvironment policies.

And let me introduce my colleague from APTA, Janis Vaughn Pierce, who is commissioner of the Memphis Area Transit Authority.

Ms. PIERCE. Thank you, Mr. Downey.

I am Janis Vaughn Pierce. I am a member of the board of the Memphis Area Transit Authority and APTA's vice president for governing boards.

I come really to support the position that we have given in our major paper and I would like to tell you specifically a little bit about what the tax situation does in Memphis and how we, as you asked, Chairman Rostenkowski, for ways to increase taxes and I would like to say that we support the 7-cent increase in gas taxes.

Chairman ROSTENKOWSKI. You support it?

Ms. PIERCE. Yes; we support the 7-cent increase in gas taxes. However, I would like to suggest, instead of your proposal that I read this morning, that it go for transit, as Mr. Downey has pointed out.

In our community, every dollar that goes to transit results in $8.47 in the economy and I think that is a very good buy. Our city has the lowest per capita income of any of that size and transit is critical to its continued economic development. We are now one of two, along with Nashville, growing cities and a large part of our growth is going to depend on whether we can develop a significant transit system.

We would like to ask you, to encourage, to use taxation. It has long been a policy to use taxation to encourage national policy that is good for everyone. We think that this would be good for it, that a national transit system that is well developed is good for everyone and this would be a beneficial tax.

Thank you.

[The prepared statement follows:]

STATEMENT OF AMERICAN PUBLIC TRANSIT ASSOCIATION
Presented by Mortimer L. Downey, III, and Janis Vaughn Pierce

Chairman Rostenkowski and members of the Committee, the American Public Transit Association (APTA) is pleased to have this opportunity to testify on federal tax laws and the environment. We appreciate the Committee's interest in this issue. Carefully designed tax policies can be a powerful force for protecting the environment.

APTA is here today to make one point: Public transit is good for the environment. If one person stops driving to work for a year and commutes by public transit instead, it prevents the emission of 78 pounds of the pollutants that cause ozone and carbon monoxide haze. Anything that you can do to convince more people to use transit instead of driving their own cars will reduce air pollution and benefit the environment. We urge you to consider this broader context as you evaluate the environmental effects of tax policy.

APTA's membership includes more than 400 public and private mass transit systems which carry over 95% of the people who use transit in the United States. In addition, APTA's membership includes over 430 manufacturers, consultants, academic institutions, and government agencies involved in mass transit. This diverse membership has enabled APTA to become the nationwide repository of information about mass transit system operations and planning trends.

Using these resources, APTA recently published the most thorough available analysis of our nation's long-term public transit needs. This analysis was completed by APTA's Transit 2000 Task Force, which was created in 1987 to provide a comprehensive vision of America's future public transit needs. Its nearly 50 members represent a broad range of the transit industry, including large and small transit systems and private businesses that supply and advise transit professionals. One of its specific mandates was to examine the ways that public transit can improve the environment in the coming decades.

In November 1989, the Transit 2000 Task Force released its final report, entitled "Managing Mobility: A New Generation of National Policies for the 21st Century." This Report outlines a plan of action for transit to enhance mobility for Americans by increasing ridership, expanding services, reducing congestion on highways and streets, and promoting a cleaner environment. We are here today to discuss the tax aspects of this action plan.

BENEFITS OF APTA POLICY

Among the goals of APTA's Transit 2000 Task Force, which would be supported by these changes in the tax code, are the following:

- Reduced vehicle emissions as transit ridership grows;
- Enhanced mobility for all citizens and reduced highway construction needs and costs;
- Reliable funding for transit to accommodate long-term planning and decision-making;
- Improved coordination of federal transportation, environmental, and energy policy, and;
- Increased cooperation on transportation projects between federal, state, and local agencies, and the private sector.

APTA'S TAX PROPOSALS

To meet the goals outlined in the Report, APTA recommends a 7 cent increase in the portion of the federal fuels excise tax which is deposited in the Mass Transit Account of the Highway Trust Fund and used to finance federal transit programs. Such an increase in this surface transportation user fee would restore the effective size of the federal program to the 1981 level and would help our communities increase transit's share of all trips. To make the best use of increased federal support for transit, we have crafted recommendations for restructuring the federal transit and highway programs.

We also respectfully recommend that employer subsidies for employee mass transit and vanpool work commutes be treated as a non-taxable fringe benefit. Current federal law treats subsidies for employee parking as a tax-free benefit, and it should do no less for transit and other shared-ride, high-occupancy services. Tax-free treatment of employer-provided transit subsidies is an effective means of promoting environmentally beneficial transit use and leveling the playing field in an individual's decision about how to get to work. Current federal tax policy stacks the deck against transit and harms the environment.

Finally, we advocate federal tax laws which facilitate efficient access to the municipal bond markets by tax-exempt public entities such as transit systems and which promote private investment in the transit infrastructure. Using the tax code to foster private investment in transportation projects that reduce vehicle emissions and reduce congestion is responsible environmental and fiscal policy. Such policies are consistent with the Bush Administration's goal of eliminating barriers to private sector participation in financing transit operations.

OUTLINE OF THE ENVIRONMENTAL PROBLEM

Motor vehicles, or mobile sources, are a major target of proposed clean air legislation because they are a leading source of ozone and carbon monoxide pollution. Mobile sources are responsible for 70 to 80% of carbon monoxide (CO) emissions and over 30% of carbon dioxide emissions, the pollutant that promotes global warming via the "greenhouse" effect.

Some 94 urban areas with 136 million people violate the Clean Air Act health standard for ozone. Ozone is a secondary pollutant formed from the mixture of nitrogen oxides (NOx) and hydrocarbon pollutants called Volatile Organic Compounds (VOCs). Automobiles, trucks, and other motor vehicles are responsible for about 45% of all NOx emissions and 40% of VOC emissions.

Starting around 1990, increases in Vehicle Miles Travelled (VMT) will offset the emissions reductions from stricter tailpipe standards for motor vehicles. Both VOC and NOx emissions are expected to keep rising along with VMT, which is projected to grow by 2% per year. In other words, greater use of the private automobile has more than offset the benefits of pollution control equipment installed on new cars.

Congestion on urban highways and streets will add to the air pollution problem. Over the next 20 years, it is estimated that congestion will increase by more than 400% on the nation's freeways and by more than 200% on non-freeways. A recent Transportation Research Board report found that congestion will cause excess fuel consumption to increase by 7.3 billion gallons per year, with concomitant air pollution increases.

We now know that persistent or worsening air pollution has adverse health effects on everyone, not just people with respiratory problems. The American Lung Association estimates that the national health care bill for air pollution illnesses is

$40 billion per year. This burden on the nation's health care system will continue to rise as emissions increase.

The only way to avoid these emissions increases is to limit the growth in VMT while still accommodating the growth in travel demand. Successful strategies to accomplish this goal will be measured by higher average vehicle occupancy and a larger share of commuter traffic carried in multiple-occupant vehicles.

It is clear that transit must have an increased role in this process. Higher average vehicle occupancy is the only means of ensuring that the same number of people can reach their destinations without increasing the number of vehicles on the road and, ultimately, the amount of air pollution. Only transit in its broadest definition, which includes all alternatives to the single-occupant vehicle, can do what needs to be done.

Transit can make an impressive contribution to cleaner air: When a single worker stops driving to work alone and commutes by public transit for a year, the result is an emissions reduction of 9 pounds of VOCs, five pounds of NOx, 63 pounds of carbon monoxide, and one pound of particulates.

Cleaner air is not the only environmental benefit of increased transit use. Public transit systems are frameworks for revitalizing central cities, to the benefit of their surrounding metropolitan areas. By making the urban environment more attractive, transit can improve the quality of life for everyone, especially the economically disadvantaged, senior citizens, and others who live in central cities. Support for transit is an essential component of the comprehensive land use planning and development strategies that are needed to promote environmentally healthy communities, both cities and suburbs.

I will now explain in more detail APTA's three tax-related recommendations for ensuring that public transit can do its part to reduce air pollution and improve the environment.

THE NEED FOR A GAS TAX INCREASE

As previously stated, APTA recommends that the federal fuels excise tax be increased by 7 cents per gallon. All of this increase should be earmarked for transit purposes, although there could ultimately be greater flexibility of local choice in how to use both these and the companion highway program funds. This increase will raise federal revenues dedicated to national transit needs from $3.2 billion to $11 billion. This would restore the federal transit program, which has experienced a more than 50% reduction in real dollars, to the 1981 level. It will also give the public transit industry a financial foundation for long-term planning designed to expand transit's share of the transportation market and reduce pollution from mobile sources.

This increase in the gas tax would leave gas prices at below historical levels of recent years, when adjusted for inflation. It would also leave our national fuels taxes far below those found in any other industrial nation. In 1987, the average price per gallon of gasoline in the United States was $.82, including $.25 in taxes. In five western industrial nations, the average price was $2.78 per gallon, including $1.84 in taxes.

Investment in mass transit at the levels proposed, coupled with real incentives for transit use, will have many benefits: improved air quality, reduced traffic congestion, reduced highway cost, reduced dependence on foreign energy providers, a reduced highway death toll, greater energy conservation, increased productivity, general economic growth, and a healthier, more attractive urban environment.

ASSESSMENT OF NEEDS

APTA recommends that federal transit investment be increased from the current $3.2 billion per year to $11 billion, $5.7 billion for essential reinvestment and $5.2 billion for capacity expansion. Each additional one cent increment in the federal fuels tax produces approximately $1 billion in additional revenue, hence the 7 cents per gallon figure.

This level of investment would enable the nation's transit industry to:

1) reduce the existing backlog of transit reinvestment needs and ensure a regular cycle of rehabilitation and replacement based on industry projections from current capital programs;

2) more than double current transit ridership through steady growth over the next 30 years; and

3) increase the proportion of transit trips on vanpools, carpools, high-occupancy lanes, and other shared-ride services to at least 15% of all transit trips.

In 1981, federal funding for transit was $4.6 billion. To reach an equivalent funding level today, $6.5 billion would be required. This amount is within the $6 to $8 billion per year range which is the minimum level of federal investment needed to maintain existing transit facilities, continue new projects that are in the advanced stages of planning and development, and comply with new federal mandates for improved services to persons with disabilities.

We are asking for additional funds above the $6-8 billion level to implement our long-range plan to enhance mobility and provide all the other benefits outlined earlier. The $11 billion funding figure is based on a careful assessment of the capital requirements that will be needed to achieve these goals.

APTA's projections of future capital requirements are based on a transit growth model that results in an increase of 9.7 billion to 17.4 billion additional transit passenger trips per year by 2020. Under this model, total transit ridership will double or triple over the next 30 years from its current level of about 9 billion annual trips. This represents an annual growth rate of 2.3 to 3.6%. Given the problems posed by congestion and air quality, raising U.S. transit ridership to this level is a reasonable target on environmental grounds. Moreover, this rate of expansion builds realistically on the growth in transit ridership experienced since 1973.

RURAL TRANSIT NEEDS

Although transit is most often associated with large urban areas, there is a growing need for transit services in smaller urban areas and rural parts of the country. It is APTA's position that federal support for rural transit needs should be at least double the $70 to $80 million now provided annually. These additional funds for rural transit would also be provided through the increased federal fuels excise taxes.

THE FUNDING SOURCE

Federal motor fuel taxes and associated user fees have been a major source of support for transit since 1983. APTA supports a continuation of this successful partnership between the federal government and state and local governmental bodies.

The gas tax is the most appropriate mechanism to fund surface transportation improvements, in part because it is a user fee for these improvements. Taxes, or user fees, are more likely

to gain public backing when they are explicitly related to tangible results on people's lives. This kind of accountability strengthens confidence in our system of government.

Support for gas taxes as transportation user fees would be undercut if motorists perceived that some of the funds went to deficit reduction or for other purposes. APTA supports the position taken by the Department of Transportation (DOT) in its new report on a national transportation strategy, which affirms that "the user charges paid into transportation trust funds must be dedicated to transportation—to preserve the integrity of the trust funds and the user fee concept and to serve critical transportation needs." We hope that the Office of Management and Budget has read and will heed this comment.

It is important to make clear that gas taxes now pay for a comprehensive range of locally controlled transportation options, not just highways. Federal policy explicitly recognizes that funds raised through the gas tax should be used to fund not just roads but the components of a public transportation system as well. Highways, streets, buses, light and heavy rail transit systems - all are parts of an integrated transportation system in a metropolitan area. The new DOT report notes that federal fuel taxes "are not limited to spending on the highway system, but can also be used for transit improvements and other projects that reduce congestion for highway users."

We in the transit industry recognize that we must expand our efforts to help people recognize that improved transit benefits motorists as well as transit users - in addition to improving air quality, it reduces congestion and waiting time, leads to increased average highway speed, and so forth. Considering the additional congestion that would result if all transit users drove their own cars, the support for transit provided through the individual motorist's gas tax is a direct benefit to that motorist. Given popular support for a better transportation infrastructure, we believe that a gas tax increase that is dedicated for transit is good public policy.

From a national perspective, urban portions of the interstate highway system would be far more congested without transit. The crucial highway portion of the nation's transportation infrastructure can function only through a synergistic relationship with transit systems that relieve congestion at these key urban focal points. Wasting these national resources by clogging them with single-occupant automobiles is not sound transportation policy.

In addition, a higher price for gas will reduce the demand for gasoline. This will help to hold the line on vehicle miles of travel, which is a key goal of the clean air legislation. It will also reduce congestion, encourage greater fuel efficiency both through technology and through ridesharing, and improve our trade balance by reducing the demand for imported oil.

WHY FEDERAL SUPPORT SHOULD INCREASE

There are a number of reasons why federal support for transit and transportation should be maintained and increased:

1) A national policy is needed to promote national goals. It is the essence of the federal system to provide support to local areas in order to promote national goals. A prime example is an effective national transportation network that will serve our economic interests and help achieve our environmental goals. A secure, long-term source of funds is essential for full-scale implementation of this nationwide transportation system.

2) A basic underpinning of federal support is needed to ensure that local areas can make long-term plans that conform

with nationwide priorities such as clean air, mobility for all citizens, and an effective national transportation network.

3) Only the federal government can counterbalance, at least partially, the economic distortions resulting from the fact that highway users, especially urban automobile drivers, do not pay the total costs of highway use. A major reason is that the price of fuel does not reflect the costs imposed by vehicle emissions and congestion. As the new DOT report states, "where the market fails to take into account all public costs of a particular transportation activity or service, such as safety or environmental impacts, then Federal policy can be used to correct these imbalances, to improve the general public welfare."

4) The federal government has a responsibility to provide public service agencies, including transit systems, with funding to pay the costs of compliance with federal mandates such as requirements that may be imposed under the Clean Air Act and the Americans with Disabilities Act.

5) Equal federal support for transit, along the lines of that historically provided to highway construction and other modes of transportation, is essential to prevent skewing of demand toward those other modes and to actively promote transit ridership as one solution to the nation's environmental problems.

Now, as we face the problems of congestion and decaying infrastructure, it is all the more evident that the gas tax is in fact a user fee for an integrated, comprehensive transportation system. The environment and the economy depend on the implementation of an effective surface transportation system. Only national leadership can ensure the funding need to maintain and expand all components of this system.

MISCONCEPTIONS ABOUT TRUST FUND BALANCES

Any discussion of this issue must confront a common misconception about the so-called "surpluses" in the Mass Transit Account and the Highway Trust Fund. The balances in these Trust Funds are often viewed as a source of increased funding for federal surface transportation programs. Statements are made that there will be a "surplus" of some $7 billion in the Mass Transit Account and a "surplus" of $18 billion in the entire Highway Trust Fund by the end of FY 1990. Unfortunately, surpluses this large do not exist. As DOT notes in its transportation strategy report, "there are significant commitments against the unspent balances. The total uncommitted balances represent significantly less than one year of Federal spending on highways, aviation, and transit."

With regard to the Mass Transit Account, an unexpended balance of $6.9 billion is projected for the end of FY 1990. Of this amount, $4.0 billion is the obligated balance of funds to pay for grants that have already been approved by the Urban Mass Transportation Administration (UMTA). It will be spent over the next few years. An additional $500 million is the unobligated balance of contract authority in excess of appropriated obligation limits. This leaves a total of $2.5 billion that is not committed to current or future obligations. In the case of the entire Highway Trust Fund, funding all obligations and contract authority would not only use up the entire unexpended balance but would require an additional $19.5 billion.

While APTA supports the expenditure of all of the funds in the Highway Trust Fund for transportation purposes, there is in fact very little money in the Trust Fund to support increased transit funding unless all of the commitments already made are abandoned. Furthermore, spending down any unobligated balance is no substitute for an increase in the fuels excise taxes to support a more reliable source of transportation funding.

ENVIRONMENTAL BENEFITS

Many factors (increased cost of fuel, congestion, transportation controls, workplace incentives, convenience) will combine to determine the precise level of emissions reduction and resulting environmental benefits to be derived from increased funding for transit financed through a federal gas tax increase.

If we as a society truly support the goal of cleaner air, then federal incentives for people to drive fewer miles are critical. It is also important to recognize that without transit, achievement of the Clean Air Act's goals will be impossible. With or without an attempt to impose the full costs of driving on gasoline buyers, an increase in federal support for transit is necessary to bring transit closer to an equal footing with automobile travel.

As long as the pump price of gasoline does not reflect the total cost of vehicle travel, the transportation sector of the economy will be in disequilibrium. Because individuals base decisions on the perceived costs that they must pay for the different alternatives, their decisions will be weighted against transit and in favor of automobiles, against higher vehicle occupancy rates and in favor of single-occupant vehicle travel. The result is more pollution, more congestion, and greater demand for new road construction than would otherwise be the case.

APTA believes that a federal gas tax increase for transit purposes should be adopted now because it is a step toward restoring balance to the transportation system and it will give us the resources to begin long-term planning to promote a cleaner environment through greater transit use.

TRANSIT PASS

There is another issue where your Committee can take an important step toward making the federal government an advocate of pollution reduction. This is the transit pass issue, which concerns the tax treatment of employer-provided vanpools and subsidies for public transit.

At present, the Tax Code allows up to $15 per month in employer-provided subsidies to be excluded from an employee's taxable income. That amounts to $180 per year. Under this "de minimis" exemption, if the employer provides a monthly benefit of $15.01 or more, all of the benefit (not just the amount in excess of $15) is subject to tax. This is the so-called "cliff" provision. There is currently no exemption for employer provided vanpools, that exemption having expired in 1986.

APTA urges that the tax code be restructured to encourage commuting by public transit, vanpools, and other high-occupancy vehicles. The need to provide this encouragement is, by itself, sufficient to merit a substantial increase in the amount of the exclusion and a restoration of the vanpooling benefit. But the need for these changes is even more apparent when we consider the tax treatment of employer-provided parking benefits. Access to parking is one of the most important factors affecting employees' choice of how to commute to work.

Employers can provide, tax-free, parking spaces for employees' personal or company-assigned vehicles - no matter what the cost of parking in the vicinity of the workplace may be. This tax-free benefit is equal to the cost of nearby parking. The average cost of off-street parking in the nation's urban areas is estimated by APTA to be $58 per month, or $696 per year. In some downtown areas, the amount is much higher and can amount to several thousand dollars per year. In New York City's central business district, it is $250 per month, or $3,000 per year; in

Boston, it is $245 per month, or $2,940 per year. That is quite a contrast to the maximum $15 per month exemption for a transit pass.

It is not our purpose to argue against tax benefits for personal vehicles. Rather, we urge the Committee to recognize that the employer-provided parking benefit adds to the attraction of commuting by single occupant vehicle. Each individual chooses a means of commuting based on the cost (in time and convenience as well as money) of each alternative. At present, the tax code effectively raises the perceived cost of public transit in comparison to the perceived cost of using a personal vehicle, and discourages commuters from using transit.

The evidence indicates that federal tax policy does affect the behavior of individual commuters. According to a 1984 survey by the Port Authority of New York and New Jersey, 64% of New York-bound motorists crossing the Hudson were subsidized by their employer for the trip, usually in the form of employer-provided parking. More than 25% of these work-bound motorists expressed a willingness to use public transit if their employers provided a partial or complete subsidy of the transit fare.

This tax policy is unfair to people who choose to commute by public transit or vanpool and it undercuts efforts to reduce air pollution. At present, the deck is stacked against transit and against the environment. The federal government and society as a whole have an interest in encouraging transit use or at least creating a more level playing field among the various modes of transportation.

Some workers must use public transit because they cannot afford automobiles. These lower-income workers clearly receive inequitable treatment in comparison to workers who receive, in the form of a free parking space, a benefit worth hundreds or even thousands of dollars. It is important to recognize that all individuals who use transit, no matter what their income level, deserve equitable treatment.

This aspect of the tax code is inconsistent with federal environmental policy. Improving air quality in urban areas depends on a variety of strategies to reduce vehicle emissions, including greater use of public transit. Every Congressional sponsor of transit pass legislation has noted the legislation's potential contributions to cleaner air. Because transit is part of the solution to this pressing national problem, the tax code should be amended to put transit on a level footing with other forms of transportation.

Finally, this provision of the tax code offers yet another example of the adverse conditions under which transit must attempt to attract customers. APTA's members are firmly committed to an aggressive effort to increase their market share. Success will have clearcut environmental benefits, but this task will be all the more difficult as long as the tax code effectively discourages people from using public transit.

APTA is gratified by the widespread Congressional interest in increasing the existing $15 per month exclusion for transit passes. Committee members Charles Rangel, Robert Matsui, and Barbara Kennelly are among the Members of Congress who have introduced legislation to increase the exclusion, eliminate the cliff, and provide an exemption for vanpool expenses. APTA supports these legislative proposals. APTA recognizes the difficulty that the Committee faces in ensuring that the federal government takes in sufficient revenue, but we urge your immediate action on this issue as an important and essential step toward improving the nation's air quality.

MUNICIPAL FINANCE ISSUES

APTA also supports specific revisions to the tax code which would relax the restrictions on tax-exempt issuers' access to the municipal bond markets. These provisions now inhibit the effective use of local resources, which are an essential part of our total financing program. These locally-designed programs have a great potential to make flexible and innovative contributions in conjunction with federal support.

A. ARBITRAGE REBATE. In the past, a public entity's ability to pre-fund defined capital requirements in a tax-exempt market and reinvest those proceeds in higher-yielding taxable markets until they were needed produced a small but significant flow of additional, internally-generated funds, called "arbitrage." The 1986 Tax Bill, in an attempt to contain some recognized abuses, effectively removed this source of funds and imposed a significant reporting burden on local issuers by requiring these issuers to rebate all arbitrage earnings to the federal government.

Tax-exempt issuers welcomed the arbitrage rebate relief contained in the 1990 Budget Reconciliation Bill, which resulted from proposals by Representative Beryl Anthony. The new provisions extend the existing "safe harbor" arbitrage period for tax-exempt construction proceeds reinvestment to two years, if certain aggregate percentages of the proceeds are spend in six-month intervals. Though not a return to unrestricted arbitrage benefits, it is a step in the right direction, both for simplification of the reporting burden and for efficient financing of projects.

One critical item within the 1990 Budget Reconciliation Bill which must be addressed in the tax law is the misunderstood distinction between extended arbitrage protection for "construction" projects but not for "acquisition." Many major equipment acquisitions for transit properties are pre-funded with bond proceeds, since delivery schedules under sizable contracts can require progress payments over many months. The distinction between these categories of capital expenditures funded with tax-exempt bonds is unnecessary and should be eliminated in the Tax Code.

A specific suggestion for arbitrage rate relief concerns Debt Service Reserve Funds, which are specific amounts providing bondholder protections for the life of the bonds, and which are generally critical to the issuer's ability to market the bonds. Reserve Funds, although they represent a small portion of any bond issue, are still subject to rebate, with all the accompanying complexities of accounting, valuation, tracking, and allocation. APTA recommends that Reserve Funds be exempted from the rebate rules if the issuer elected to pay an up-front charge. As an example, the charge could be based on the present value of an annuity equal to 2.0% of the Reserve Fund amount for the life of the issue calculated at the bond yield.

B. PUBLIC vs. PRIVATE PURPOSE. The concept of involving private enterprise in public concerns ("privatization") has wide support. The Department of Transportation's strategy report states that it is federal policy to: "minimize legal and regulatory barriers to private participation in owning, planning, financing, building, maintaining, and managing transportation facilities and services."

However, many elements of the Tax Code undercut these efforts. The 1986 Tax Law removed all opportunities for tax-exempt entities to raise capital funds by safe-harbor leasing municipally-owned assets to private enterprises in exchange for tax benefits. The law further reduced the incentive to involve private enterprise in public activities

by (a) limiting the private involvement in joint projects to 5.0% of the ultimate benefits, and (b) subjecting any private involvement to a limited "volume cap." The volume cap is an annual maximum dollar amount available for allotment by each state based on population. Each state receives a minimum of $150 million, with a requirement that at least $50 million be available for housing projects.

APTA supports the approaches suggested by the Anthony Commission on Public Finance Report and S. 700, the Domenici-Boren Infrastructure bill. The Anthony Report concludes that the current tests distinguishing "governmental" from "private activity" bonds should simply not apply to certain facilities. The suggestion is that certain facilities that meet a public need should be eligible for tax-exempt financing, whether owned and operated publicly or privately. The list of such "public activities" should be carefully defined to ensure that important and meaningful benefits are provided to the public. Transit certainly merits inclusion in the list of eligible activities. APTA supports the Anthony Commission proposals with the understanding that mass transit must be added to the specific list.

The Domenici-Boren Infrastructure Bill would create a new category of tax-exempt bond, the "Infrastructure Bond," which would be treated as a "governmental bond," and not subject to a volume cap or to the Alternative Minimum Tax (AMT) on interest payments to bondholders. Such bonds could also be refunded at any time. An Infrastructure Bond is defined as any state or local bond where 95% of the proceeds are used to provide "infrastructure facilities."

APTA supports these important and far-reaching proposals with the understanding that mass transit should be explicitly included in their final versions.

As a related matter, APTA strongly endorses a repeal of the current Alternative Minimum Tax as applied to municipal bonds. The AMT does not generate any incremental tax revenues for the U.S. Treasury, since no potential AMT payer will buy an AMT bond. The market penalty carried by such bonds thus serves only to increase the issuer's cost of funds.

C. TAX TREATMENT COMPARABLE TO AIRPORTS. Airports have long been viewed as the exception to public/private distinctions, since mobility through the air is largely accomplished by private carriers using public facilities. Since 1986, most airport revenue bonds have been issued as tax-exempt securities, without regard for the level of private enterprise involvement in airport operations, and not subject to volume cap allocation requirements, although subject to an AMT penalty. In 1989, the Metropolitan Washington Airport Authority received an IRS ruling which further declared that airport revenue bonds issued for access roads or public parking would not be subject to the AMT.

If public-private partnerships are to be fostered as a viable means of funding surface transportation needs, the Tax Law must reduce the current restrictions on private involvement in mass transit tax-exempt financing by exempting mass commuting facilities from the state volume cap, as long as the public purpose of transit service to the general public continues to be served. In addition, as noted above, the AMT applicability should be repealed.

D. SELF-INSURANCE PROGRAMS. Major transportation systems which provide mobility for large segments of their regional

populations have found it increasingly difficult, if not impossible, to find adequate available insurance coverage for many types of risk exposure, such as excess liability for major catastrophic loss. This coverage is critical to a system's ongoing ability to operate effectively.

Certain provisions in the 1990 Budget Reconciliation Bill were designed to limit the volume of "hedge" bonds issued by tax-exempt entities. Hedge bonds are issued where the disbursement expectations are not defined or linked to specific capital needs. They have been viewed as an abusive method for issuers to take advantage of attractive interest rates and pre-fund capital until such requirements can be defined in the future. Unfortunately, bonds issued for self-insurance were caught in this categorization, since there is no possible method of predicting the ultimate expenditure of these proceeds. APTA supports a specific exclusion from the hedge bond provisions in the Tax Law for bonds issued for self-insurance purposes by public entities.

E. THE 2% DE MINIMIS RULE. Under current tax law, individuals and corporations are denied a deduction for any interest expense incurred on debt incurred to purchase or continue to carry tax-exempt securities. The test is largely a factual one, which must look at the intent of the borrower. It has been recognized for some time that corporations have much more complex borrowing patterns. As a result, the IRS established the 2% de minimis rule, which provides that as long as the investor's holdings of municipal bonds constitutes less than 2% of its total assets, the IRS will not generally inquire whether any of the corporation's borrowings were used to fund tax-exempt purchases. As with the AMT, this rule operates not to raise tax revenues, but to force a particular pattern of investment behavior. The economic penalties of failing to satisfy the rule are very severe.

There have been several efforts to further restrict corporate holdings of municipal debt. Recent proposals include placing equipment lease financings within the 2% limit.

Corporations currently represent over 40% of the buyers of short-term municipal bonds in the primary market, as well as a critical force in helping to keep short-term tax-exempt rates stable through their secondary market support. Further restrictions on their ability to participate in this market would result in dramatic increases in short-term borrowing rates for tax-exempt issuers. Accordingly, APTA opposes further restrictions under the 2% de minimis rule since no abuse exists and since the application of the rule does not generate additional revenues to the U.S. Treasury.

CONCLUSION

The Committee has the opportunity to make a significant contribution toward a cleaner environment by ensuring that the tax code provides stable, increased federal support for transit; provides incentives for commuters to use transit; and enables state and local governments to fund transit projects in the municipal bond market. We look forward to working with the Committee members to adopt these pro-environment policies and will be pleased to provide additional information as it becomes available.

Thank you.

Chairman ROSTENKOWSKI. Thank you.
Mr. Shetz.

STATEMENT OF FREDERICK THOMAS SHETZ, MANAGER, NATIONWIDE VAN POOL PROGRAM, CHEVRON CORP., ON BEHALF OF THE ASSOCIATION FOR COMMUTER TRANSPORTATION, INC.

Mr. SHETZ. Good morning, Mr. Chairman and members of the committee. I appreciate the opportunity to be here today. I also appreciate your pronouncing my name correctly, Mr. Chairman. It usually is not.

Chairman ROSTENKOWSKI. I have a problem with that, too, sometimes. [Laughter.]

Mr. SHETZ. I can imagine, yes. Coming from Philadelphia, names like yours are not that difficult to pronounce for me, though.

My name is Fred Shetz. I am here today representing the Association for Commuter Transportation, otherwise known as ACT, a national association whose mission is to make the commute easier, more convenient, and less costly.

I would like to thank those who have testified this morning so far that support the elimination of taxation on transit subsidies and ride-sharing subsidies. I would especially like to thank Hon. Thomas Foglietta for his testimony in that area.

My interest lies also with vanpooling. I manage an employee vanpool program for a major employer in San Francisco. On October 17, at 5:04 p.m., in the city of San Francisco, we received a sudden wakeup call from Mother Nature. That wakeup call brought us to our knees and made us realize the value of our public transit systems and the value of our highway transit systems that are in place. We realize the value, because many of them were eliminated for a short period of time as a result of that earthquake.

I was especially touched by its action, because I was just a few hundred feet from a piece that fell down on the bay bridge and came to stop just in time. That wakeup call called the community together to understand the things that we needed to do to eliminate the congestion and the environmental hazards that we were creating with the heavy influx of vehicles coming into our major employment areas.

That congestion and that environmental impact that is created by that kind of activity made us understand the value of coming together and ridesharing and of using every means that we could to remove the single-occupant vehicles—or as I like to call them, let's get those SOV's off the road—the single-occupant vehicles from our highways to make better use of the tax dollars that we are spending on Federal highway construction and repairs and maintenance and also at the State and local level.

We can best do that by putting into place programs and policies that encourage people to move into those ride-sharing modes. The current legislation that exists with regard to taxation taxes those benefits when they reach a certain minimal amount and that kind of activity can only discourage encouragement by companies, employers, organizations, and agencies that are out there trying to do

something to eliminate that wasteful use of our energy resources today.

I encourage you, then, today with my testimony to eliminate especially the taxation of vanpool programs to the market value, to eliminate the $15 minimum figure that we have on transit subsidies, and to move those same kinds of benefits into the area of the free paid-parking benefit that is provided by many employers today.

Thank you.

[The statement of Mr. Shetz follows:]

Testimony of Fred Shetz
Chevron Corporation
San Francisco, CA

representing the Association for Commuter Transportation, Inc.
and a coalition of organizations
supporting equity in the tax treatment of
commute-to-work fringe benefits

My name is Fred Shetz. I am the manager of the nationwide van pool program for Chevron Corporation, headquartered in San Francisco.

I am here today representing the Association for Commuter Transportation (ACT). ACT is a national association whose mission is to make the commute easier, more convenient, and less costly. Members operate or promote car, van, bus pools, public transit or other commute alternative programs. They include corporations, public agencies, non-profits, and others. We aim to reduce traffic congestion, air pollution, and energy waste by promoting commute alternatives.

We are here today to urge your support for equity in the tax treatment of commute to work fringe benefits. We think transit and car/vanpool programs should be treated the same as free or subsidized parking. They should be treated as "working condition" fringe benefits. Specifically, we urge this subcommittee to recommend legislation to accomplish three primary goals.

1. Exempt employer-subsidized car/van/buspools from taxation as fringe benefits.

2. Increase the current $15 limit on the tax-free value of transit passes.

3. Treat transit passes as working condition fringe benefits, as you treat subsidized parking.

As I previously indicated, I manage a nationwide van pool program for Chevron Corporation. Our program currently operates in 22 company locations in the United States, providing a commute alternative to over 2,600 employees through the use of more than 200 commuter vans.

Our program is similar to those operated by a number of employers today. Typically, the company provides the van for commuting use to a group of employees who live close enough to one another and who share similar work schedules. One individual is usually designated as the primary driver. The employer will accumulate the costs of operating the van, and charge these costs, either partially or totally, to the pool members. For the employee, the fare is always less than driving alone, and is usually competitive with other forms of commuting, if available.

Employers are drawn into this type of venture for a variety of reasons. Some are called to action by governmental regulations such as transportation management ordinances or air quality control board mandates. Some established van pool programs as a response to the difficulty their employees were having during the fuel shortages of past years. Others found that it made more sense to provide vans for their employees than to sink funds into enlarging parking facilities.

Our program began in 1977 in Houston under Gulf Oil Corporation. We were not pressed by governmental, parking, or fuel considerations. The year prior, we had opened an accounting facility in a suburban section of Houston. The building housed more than 2,000 employees. During the planning and construction phase we were led to believe two things. First, a major highway was to pass within a few blocks of the new building, providing easy access for those who would drive. Second, the transit system that was in Houston at that time was to establish bus routes to the building for those who would use public transit.

The bus routes took several years to become established.

The highway was completed more than ten years later....after the facility was closed due to a transfer of activity to other locations.

In 1977, however, it became evident that something had to be done to help get our people to work. A task force proposed the start of a vanpool program as a pilot project. If we could have 10 vans operating at the end of one year at that location, it would become a full-fledged company program. Within 6 months we had 20 vans operating there. Within a year it was expanded to our downtown Houston location, and our number reached 72. It has since tripled that number, and has been adopted by Chevron Corporation following the merger of the two companies.

It was the right move at the right time. Over the course of the past 12+ years, the program helped us to respond to many needs. We were there during the fuel shortages of the late '70s. When our offices were affected by local ordinances involving traffic and air quality, our vanpool program provided part of the answer to reaching increased vehicle occupancy goals. When new office buildings were being built, we were there to help get the employees to the new locations without negatively impacting local traffic patterns. Following the recent earthquake in San Francisco and the collapse of the Bay Bridge (which is where I was when it occurred!), our 78 Bay Area vans helped ease the problems resulting from limited access due to road closures.

Today our nation is finding it difficult to provide the necessary funding to maintain our current commerce lifelines, much less to expand them. As we seek solutions to this problem, we must be careful that our tax policies do not create conditions that will only further aggravate an already bad situation. It seems counterproductive to establish a policy that seeks to tax efforts being made to reduce highway usage. Rather, by using tax policy to encourage ridesharing programs, we can actually reduce demand and make better use of existing tax dollars.

As a member of ACT, as a manager of a ridesharing program, and as a concerned citizen, I urge you to:

1. Increase the tax-free level of transit passes to $60 per month - much closer to the actual cost of commuting.

2. Exempt from taxation the use of employer-owned or subsidized vehicles of any size or cost that employees use for car/van/buspooling.

3. Treat these fringes as working condition fringes, as current tax law treats employer-provided parking.

Mr. Chairman, members of the committee, I thank you for the opportunity to present this statement. I would be pleased to attempt to answer any questions you may have.

Chairman ROSTENKOWSKI. Thank you, Mr. Shetz.
Mr. Cook.

STATEMENT OF A. GEORGE COOK III, PRESIDENT, COLONIAL PARKING, INC., AND CHAIRMAN OF THE BOARD, NATIONAL PARKING ASSOCIATION

Mr. COOK. Mr. Chairman, I am George Cook, chairman of the board of the National Parking Association. I am also president and chief executive officer of Colonial Parking, headquartered in Washington.

NPA's members include over 175 companies which operate commercial parking facilities across the country. Our industry employs tens of thousands and accommodates millions of customers a day in some areas and is an essential part of urban life.

NPA supports the national priorities—and I want to report—the national priorities of protecting the environment and preserving and revitalizing our center cities. Fortunately, these goals are entirely compatible. To revitalize our cities, we have to attract people into them, to work, to live, and to shop. Congestion, pollution, and higher tax burdens turn people off, keep them away, and reduce the local tax base. That is bad for our cities and bad for our businesses.

We who operate parking facilities do not want unlimited numbers of automobiles coming into downtown areas. We want to see less congestion and pollution, so that people will live and work downtown. We believe that only a balanced transportation system can achieve these objectives.

For that reason, NPA strongly supports the measures that make it as easy as possible for people to get into the city, while helping to reduce emissions. NPA has historically supported mass transit, carpooling, and vanpooling—three transit options that facilitate access to our urban centers and are part of a balanced transportation system.

Over the past two decades, the Federal Government has played a major role in subsidizing mass transit. According to one study in 1982, over $5 billion had been contributed. Now that number is $10 billion. The same study found,

> The United States surpasses all other countries in the range of taxes and user charges earmarked for mass transit. Sales taxes, property taxes, payroll taxes, income taxes, mortgage taxes, motor fuel taxes, motor vehicle taxes, as well as proceeds from lotteries and highways, bridge-tunnel tolls are all used at various government levels to finance transit subsidies.

More needs to be done and perhaps the Tax Code should be modified to provide for new or additional carpool, vanpool, and mass transit subsidies, but it should be carefully noted that the 82 percent of commuters who must drive to their workplace are already paying for a service that is functionally unavailable for their use.

NPA would strongly oppose additional subsidies at the expense of drivers by modifying or eliminating the current tax treatment for parking. Some of the modifications that are being discussed have detrimental results. Eliminating the business deductibility for providing parking will increase the cost of doing business and have the most severe impact in our Nation's biggest cities.

This will create further disincentives for owners of businesses to stay in the major urban centers and will create, in reality, more congestion in the suburban areas.

At this juncture, I will depart from the prepared remarks and simply say that we are in a battle of preservation of the areas that the poor and the elderly must live and work in our society today, and to do further detrimental damage to urban centers would be a huge mistake.

The level-playing-field concept of the 1960's, 1970's, and 1980's must be maintained. The transit operators see also or should see the need for strong urban centers. The level playing field for them as they are asking also must be maintained, but a balanced system is what is needed.

We cannot further deteriorate the center cities that have played such a vital role in the building of this country, where so many dollars and so much of our economy is concentrated. We simply cannot have one priority destroy another priority.

Thank you, Mr. Chairman.

[The statement of Mr. Cook follows:]

STATEMENT OF

A. GEORGE COOK, III
CHAIRMAN OF THE BOARD
THE NATIONAL PARKING ASSOCIATION

BEFORE THE
COMMITTEE ON WAYS AND MEANS
U.S. HOUSE OF REPRESENTATIVES

March 14th, 1990

Mr. Chairman, I am George Cook, Chairman of the Board of the National Parking Association. I am also President of Colonial Parking, Inc., here in Washington, D.C. The National Parking Association ("NPA") and its members throughout the country appreciate the opportunity to present our views on environmental tax matters as they relate to the parking industry.

NPA, the national trade association of the commercial parking industry, was established in 1951. Its members today include over 175 companies which own or operate commercial parking facilities; over 170 parking facility administrators for hospitals, educational institutions, and municipalities; and over 150 commercial manufacturers and suppliers of parking facility equipment. Our industry, which employs tens of thousands and accommodates millions of customers annually, is an essential part of the fabric of American urban life.

SUMMARY

NPA is most interested in seeing the Congress achieve two national priorities:

- protection of the environment, and
- preservation and revitalization of our cities.

Fortunately, these goals are entirely compatible. To revitalize our cities, we have to attract people into them -- to work, to live, to shop, to dine, to be entertained. Congestion, pollution, and additional tax burdens turn people off, keep them away, and reduce the local tax base. That is bad for our cities, and bad for the business of NPA's members. **We who operate parking facilities do not want unlimited numbers of automobiles coming into downtown areas;** to the contrary, we want to see less congestion and pollution, so that people will live, work, and pursue cultural and leisure activities downtown. **We believe that only a balanced transportation system can achieve these objectives.**

For that very reason, NPA **strongly supports measures that make it easy and attractive for people to get into the city** while helping in some degree to reduce emissions. NPA supports improved mass transit, high occupancy vehicle (HOV) lanes, ridesharing, work schedule changes, employer ridership programs, and traffic flow improvements.

In addition, NPA has historically supported mass transit, carpooling and vanpooling -- three transit options that facilitate access to our urban centers and are part of a balanced transportation system.

MASS TRANSIT SUBSIDIES

Over the past two decades, the Federal government has played a major role in the subsidization of mass transit, a role in keeping with the twin policy goals of urban revitalization and reducing congestion, emissions and air pollution.

The Federal government has been an active participant, along with state and local governments, in identifying revenue sources for subsidizing mass transit. **In fact, each time an automobile driver purchases a gallon of fuel, a portion of the cost of that gallon of gas goes into the Highway Trust Fund, which is then used to help subsidize mass transit.** In many urban areas, bridge, tunnel and road toll funds are likewise used to subsidize mass transit.

According to Urban Public Transport Subsidies in Western Europe and North America (Transportation Quarterly, Vol. 42, No. 3, July 1988, p. 382), from 1970 to 1982 the amount of operating cost subsidies rose at the rate of 4.6 percent annually, or from 15 percent of operating costs in 1970 to 62 percent in 1982. The total amount of the subsidy in 1982 was over $5 billion, or 86 cents per passenger trip.

That same study found (Id., p. 383), **"The United States surpasses all other countries in the range of taxes and user charges earmarked for mass transit.** Sales taxes, property taxes, payroll taxes, income taxes, mortgage taxes, motor fuel taxes, motor vehicle taxes as well as proceeds from lotteries and highway, bridge and tunnel tolls are used at various government levels to finance transit subsidies." [Emphasis added]

More needs to be done and perhaps the tax code should be modified to provide for vanpool and mass transit subsidies. **It should be clearly noted that the 82 percent of commuters who drive to their workplace are already paying, through a variety of taxes and fees, for a service that is functionally unavailable to them.**

What NPA would strongly oppose is providing additional subsidies at the expense of those who drive their automobiles by modifying or eliminating the current tax treatment for parking.

TAX CODE CONSIDERATIONS

Some of the tax code modifications that are being discussed have detrimental results:

- Eliminating the business deductibility for providing parking;
- Adding the direct cost for providing parking to the recipients' taxable compensation;
- Including the "fair market value" of parking in recipients' taxable income (also known as "Gross Ups").

Eliminating the Business Deduction Would Hurt Our Cities and Erode the Tax Base

Eliminating the business deductibility for providing parking will increase the cost of doing business in every city or metropolitan area where an employer must pay for parking for their employees. And, in those areas where the cost for parking is highest, the disincentive to remain or move into that area will be greatest. Most often, this will have **the greatest impact in our nation's biggest cities which, for over four decades, have had to contend with outmigration -- jobs and people -- and will result in a further erosion of the tax base.**

Adding Direct Parking Cost to Income Hurts the Employee

Adding the actual, direct cost for parking to the recipient's taxable income shifts the tax burden from the employer to the employee. The goal might be to make the cost of parking so high that the recipient will choose to carpool, vanpool or use mass transit.

Again, the cost for parking is highest in our center cities; therefore, those who work in these areas will require higher levels of compensation in order to overcome this new tax burden and "make them whole." This will have an inflationary effect on wages and, again, the consumer of the business' product or service will ultimately pay the price.

For those who live in areas where mass transit or carpooling is functionally unavailable, **this new tax burden will be a further disincentive to work in the center city.**

Assessing Fair Market Value Is a Tax Increase

Another discussed option is to add the "fair market value" of parking to the recipient's total compensation. The "value" would be determined by the actual rental cost of the parking space, if paid, or by the total of direct and indirect costs incurred by the provider. At first glance, this may seem to be the fairest option because it modifies the adverse consequences of the first two options on center cities, but its effects will be greatest because it will be another tax increase for the 82 percent of the American work force who currently commute by automobile, and for whom there is no realistic alternative.

PARKING IS A NECESSARY AND HELPFUL SERVICE

People do not incur the expense of purchasing, owning and maintaining an automobile, paying insurance, gasoline, tolls and taxes, just for the opportunity to park their vehicles. In fact, this year the American Automobile Association reports that it costs an average of $3,693 per year, or 33 cents a mile, to drive an automobile.

Parking is a service, not an end use. It is a necessary adjunct to a vibrant economy, an economy that produces jobs, and supports the state and local tax base. The Federal tax code has long recognized the deductibility of parking as a legitimate business expense because it helps "level the playing field" in order to attract and maintain businesses, jobs and commercial enterprise in our nation's downtown areas where parking costs are highest.

Many people simply cannot switch from private automobile use to other modes to get into the city -- **people who live far from mass transit, parents driving children to day care on the way to work, sales people, the elderly, handicapped and many others.** Higher tax burdens, designed as a "stick" to beat people out of their automobiles, will hurt those who have no choice but to drive.

COMMUTER PATTERNS HAVE ALREADY CHANGED

Since 1950, 86% of population growth has occurred in suburban areas, according to the definitive study Commuting in America (Eno Foundation for Transportation, 1987). The number of workers in suburbs increased from 13.5 million in 1960 to 32.6 million in 1980 -- an increase of 140%, accounting for two-thirds of all job increases in metropolitan areas. (Id., pp. 24, 29.) These trends have continued through the 1980's. (Id., pp. 20, 25.)

As a result of the shift of jobs and people to the suburbs, the "typical" suburban commuter heading downtown in his car **is no longer typical**. According to the Commuting in America study (pp. 5 - 6):

> **The predominant commuter flowpattern is now the suburb-to-suburb trip.** At about 25 million commuter trips per day, it represents about one-third of all metropolitan commuting.
>
> * * * *
>
> The **traditional commute** between suburb and center city, although still growing, **is not the dominant pattern.** It is in fact third. . . .
>
> * * * *
>
> It is in the largest metropolitan areas where the suburbs are most dominant in commuting patterns.

Indeed, according to the Urban Land Institute, today the central business district commuter probably represents less than 10 percent of all highway travelers even during the heaviest rush hour. (Urban Land Institute, "Myths and Facts about Transportation Growth" (1989).) Further, the ULI points out that transit use is greater for center city destinations than for suburban destinations.

While traditional suburb-to-downtown commuting is certainly still significant, it seems inappropriate and unfair to modify the tax code in such a way as to penalize businesses or employees who are located in center cities.

MANY COMMUTERS SIMPLY HAVE NO CHOICE BUT TO USE THEIR AUTOMOBILES

For several reasons, many commuters simply cannot make use of alternatives to the single-occupancy vehicle.

Lack of Adequate Mass Transit

A basic and major problem is the lack of adequate mass transit in many urban areas. It hardly makes sense to force people to use transit that is not available or that, because of crime, grime, distance from bus and subway terminals with inadquate parking, poor service or other factors, is functionally unavailable.

Working Parents Need to Make Multi-Destination Trips

The changing patterns of commuting make alternatives to the single-driver automobile impractical for many people. With an increasing number of women heading households and households with two working parents, many people have to do a lot of other things on their way to and from the workplace -- take children to and from day care, do the grocery shopping, stop at the laundry, etc. As a result of this trend, much of the growth in automobile traffic has been in multi-destination trips, combining commuting and non-work stops.

Indeed, according to the Urban Land Institute, in 1983 the number of miles traveled to earn a living, including work-related business, was only 27 percent of daily travel in metropolitan areas. It was estimated that in urban areas of at least 3 million people, travel on the roads during the evening rush hour was almost evenly divided between commuting and non-work trips. For this variety of trips, especially combined commuting and non-work purposes, there are few if any alternatives to the private, single-occupant automobile.

The Handicapped and Elderly Have No Real Choice

There is often no realistic alternative to use of the automobile for the handicapped and many of the elderly. Taxicabs, if available, may avoid picking up wheelchair-bound persons. Most buses do not have chairlifts. Curb ramps are not always present or accessible. And the list goes on.

CONCLUSION

While ultimately increasing, rather than decreasing, congestion and pollution, new taxes aimed at commuters undercut the revitalization of our cities. If both center city and suburban residents are effectively denied access to the central business district because of an increased tax burden, they will increasingly look for jobs, shopping and recreation in the suburbs. Commercial and retail businesses will leave ever faster, eroding the tax base.

Given that revitalization of our cities is a high national priority, it makes no sense to take steps to erect new barriers which thereby encourage jobs and businesses to leave, particularly at a time when many cities are facing an extreme fiscal crisis brought on by economic slowdown.

The result can only be an exacerbation of the all-too-prevalent trend towards abandonment of the poorest people and the elderly -- those least able to escape -- in the urban core, with an attendant increase in hard-core poverty and unemployment. And with a shrunken tax base, city governments will lack the resources for their share of needed new initiatives for mass transit, education, and the war on drugs.

We appreciate this opportunity to present our views, and we would be pleased to respond to any questions the committee may have.

Chairman ROSTENKOWSKI. Thank you, Mr. Cook.
Mr. Pickrell.

STATEMENT OF DON H. PICKRELL, PH.D., ECONOMIST, TRANSPORTATION SYSTEMS CENTER, U.S. DEPARTMENT OF TRANSPORTATION, CAMBRIDGE, MA

Mr. PICKRELL. I am grateful for the opportunity to appear before the committee today. My name is Don Pickrell, and I am an economist with the Transportation Systems Center in Cambridge, MA.

I appear before the committee today strictly in my capacity as an independent expert in urban transportation. None of my statements should be construed as official viewpoints or policies of the U.S. Department of Transportation.

More than three-quarters of those who drive to work in U.S. cities use parking that is provided by their employers for which 90 percent pay no charge whatsoever. Many commuters who receive free parking work downtown or in densely developed suburban office centers where the price of parking would provide a powerful inducement to use transit or join a carpool if their employers did not supply it free.

For many employees, the availability of free parking at work actually represents a stronger incentive to drive than if their employers offered, instead, to provide a free automobile and free gasoline for the trip. This occurs because driving by automobile to work costs a typical American commuter about $5 a day, while in the downtown area of almost any major U.S. city, an employer's offer of a free parking space is worth much more than this amount. Even in many of the suburban office centers where employment is growing most rapidly, daily parking prices this high are increasingly common.

It should come as no surprise that an incentive this strong overwhelms any inducement for employees to commute by public transit that is currently offered by the limited tax exemption of employer-provided transit passes. At most, a free transit pass can be worth a little under $270 in annual taxable salary, and is often worth nothing because the tax exemption of its value is limited by the 1984 Tax Reform Act.

In contrast, employers' offers of free parking are, on average, equivalent to salary increases nearly 4 times this amount according to Mr. Downey's estimate, and can range as high as 10 or more times this figure for some employees.

Even the combination of generous Federal, State, and local transit subsidies, which now exceed $10 billion annually, has proven woefully inadequate to counteract such a powerful incentive for employees to drive their cars to work. This should not be surprising either, since these subsidies reduce the cost of commuting to work on public transit by about $3 a day, while an employer's offer of a free parking space typically reduces the cost of driving to work by at least this amount, and often by several times it.

My own estimate is that at least 20 percent of commuters who now drive alone would instead choose to carpool or use public transit if they were required to pay market rates for the parking they now receive free.

Peak hour auto commuting is largely responsible for increasingly widespread urban and suburban traffic congestion, and also contributes heavily to both air pollution levels in our cities and the transportation sector's substantial energy demands.

Thus, employers who encourage their employees to drive to work by providing free parking contribute significantly, if unwittingly, to the severe environmental consequences of our nearly exclusive reliance on the automobile for urban travel.

The major reason that so many employers provide free parking is its tax-exempt status, which results from its classification under the 1984 Tax Reform Act as a working condition fringe benefit.

Unlike the tax exemption of other fringe benefits, such as health insurance and retirement savings, however, which encourage behavior that we deem socially responsible, exempting the value of employer-provided parking from income taxation rewards behavior that Federal policy seeks to discourage, often in vain.

As a result, our Nation is unlikely ever to meet its repeatedly proclaimed goals of utilizing its transportation investments more efficiently, improving urban air quality, and reducing its dependence on nonrenewable energy resources so long as so much parking continues to be supplied free to commuters.

Fortunately, employers can be readily dissuaded from doing so, by amending the Federal Tax Code to reclassify employer-provided parking as a taxable fringe benefit with its cash value required to be estimated and reported in the same way that other fringe benefits are now treated.

The primary motivation for employers to offer free parking would thus be eliminated. Although this is likely to be a politically unpopular reform, it would have the desirable effect of helping to reduce the Federal budget deficit by increasing tax revenues, initially by as much as $5 to $10 billion annually.

There is no better lesson in the futility of attempting to promote alternate modes by introducing new subsidies, or of attempting to build our way out of the congestion problem, than the experience of the decade since I first offered almost exactly this same testimony before Congress. During that time, Government subsidies to promote expanded transit service totaled nearly $100 billion, yet transit's importance as a means of commuting continued to decline, while dramatic growth in auto travel aggravated traffic congestion levels and caused the environmental quality of many of our Nation's cities to deteriorate.

I urge the committee to take action to eliminate the tax exemption currently enjoyed by employer-provided free parking. This decisive step toward more rational pricing of automobile travel will make major contributions to improving the efficiency of our Nation's transportation system, restoring the quality of our urban environment, and conserving our vital energy resources.

Thank you again.

[The statement of Mr. Pickrell follows:]

The Tax Exemption of Employer-Provided Parking

Testimony Presented to:

Committee on Ways and Means
U.S. House of Representatives

March 14, 1990

Presented by:

Dr. Don H. Pickrell
Economist*

* Dr. Pickrell is employed by the Transportation Systems Center, a division of the U.S. Department of Transportation. He appears before this Committee strictly in his capacity as an independent expert in urban transportation, and not as a representative of the U.S. Department of Transportation. The views expressed in this testimony are strictly his own, and in no way represent an official viewpoint of the Department of Transportation.

In urban areas throughout the nation, employers commonly offer their employees free or partly-paid parking at their places of work. More than three-quarters of those who drive to work in U.S. cities use parking that is provided by their employers, for which 90 percent pay no charge.[1] Although some employer-provided parking is located in low-density suburban areas, many commuters who receive free parking work downtown or in densely developed suburban centers, where the price of parking would provide a powerful inducement to use transit or join a carpool if their employers did not supply it free. For example, 64 percent of auto drivers crossing the Hudson River on route to the Manhattan CBD during the morning rush hours park their cars in spaces that are completely or partly paid for by their employers.[2] And here in Washington, the federal government and the region's private employers together provide free parking for nearly 100,000 automobiles, or almost half of all those driven to work during peak commuting hours.[3]

By offering free parking, employers substantially reduce the cost at which their employees can drive to work. For many employees, the availability of free parking at work represents a stronger incentive to drive than if their employers offered instead to provide free use of an automobile and free gasoline for the trip. Trips to work by automobile in U.S. cities average just under twenty miles (for the round trip), over the course of which an automobile costs less than $5.00 to own and provide gasoline for.[4] Yet in the downtown area of almost any major U.S. city, an employer's offer of a free parking space is worth much more than this amount, while even in some suburban office centers, daily parking prices of this level and above are increasingly common.[5]

It should come as no surprise that an incentive this strong overwhelms any inducement for employees to commute by public transit that is currently offered by the tax exemption of employer-supplied transit passes. At most, a free

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[1] *Federal Highway Administration, Nationwide Personal Transportation Study, 1969, Table 22.*

[2] *Port Authority of New York and New Jersey, 1984 Survey of Trans-Hudson Automobile Commuters, October 1984.*

[3] *Metropolitan Washington Council of Governments, Parking Management Policies and Auto Control Zones, Report DOT-OS-40045-1, June 1976.*

[4] *Automobile trips to work average 9.9 miles (each direction) in U.S. cities; see Federal Highway Administration, Personal Travel in the U.S., Volume 1 of the 1983-84 Nationwide Personal Transportation Study, August 1986, Table 7-6, p. 7-9. Costs associated with ownership of a typical automobile (depreciation, financing charges, and licensing and registration fees) currently average $0.181 per mile including all costs associated with ownership of the vehicle itself, while gasoline consumption adds another $0.054 per mile; see American Automobile Association, "Your Driving Costs," 1989 edition, p. 5. These costs would thus total $4.65 over the course of a typical round trip to work.*

[5] *See for example Sheila A. Henry and Roberta Valdez, "Analysis of Parking Charges and Costs per Employee by Travel Analysis Areas in Orange County," Planning Department, Orange County Transit District, July 1989, Appendix.*

transit pass can be worth about $270 in annual taxable salary, and is often worth nothing because the tax exemption of its value is limited under the de minimis rule adopted as part of the 1984 Tax Reform Act. In contrast, employers' offers of free parking are typically equivalent to salary increases of ten or more times that amount.[6] Even the combination of generous federal, state, and local transit subsidies -- which now exceed $10 billion annually -- has proven woefully inadequate to counteract such a powerful incentive for employees to commute by automobile. This should not be surprising either, since under the most optimistic assumptions these subsidies reduce the average fare for a round trip to work using public transit by slightly more than $3.00, while an employer's offer of a free parking space typically reduces the cost of driving to work by at least this amount, and often by much more.[7]

The most direct evidence of the effect free parking can have comes from commuters' responses to their employers' decisions to begin charging employees for parking they formerly provided free. When the Los Angeles area's ridesharing agency phased in market rates for employee parking, the fraction driving alone to work declined from 42 percent to 8 percent, while the share of carpool participants rose from 17 percent to 58 percent of the agency's employees.[8] When charges equal to 50 percent of commercial rates were imposed for parking

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[6] *Under the Tax Reform Act of 1984, employer-provided transit passes worth up to $15 per month may be excluded in computing their recipients' federal income taxes. Under the so-called de minimis rule, however, the Act also provides that if the value of the pass exceeds $15 per month, its entire value is treated as taxable income. For an employee in the highest marginal tax bracket (33%), an untaxed benefit with a cash value of $15 per month is equivalent to $268.66 per year in taxable income. In contrast, an employer's offer of a free parking space that would otherwise cost $7 per day -- a comparatively modest charge in many U.S. cities -- is equivalent to an increase in taxable income of more than ten times this amount (to be exact, $2,758) to an employee in the highest tax bracket.*

[7] *Total subsidies paid to urban transit operators by federal, state, and local governments amounted to just over $10.5 billion during 1988, while the number of trips made by transit totaled about 6.5 billion; these data are from Urban Mass Transportation Administration, 1988 Section 15 Annual Report, Tables 2.02.2, 2.04.2, and 2.13. Thus even if none of this assistance were wasted in the form of higher costs or unutilized service, and all of it were available to underwrite lower fares, the resulting fare reduction would be just under $1.63 per one-way transit trip, or about $3.25 for a round trip to work by transit. (It is possible that this figure underestimates the fare subsidy for commuting to work by transit. On one hand, the subsidy transit work trip would be much greater than this average figure, since a disproportionate share of both capital and operating costs for transit are accounted for by peak service, and most work trips are made during peak travel hours; see Thomas E. Parody, Mary E. Lovely, and Poh Ser Hsu, "Net Costs of peak and Off-Peak Transit Trips Taken Nationwide by Mode," paper presented to the Transportation Research Board 69th Annual Meeting, Washington, D.C., January 1990. On the other, there is substantial evidence that as much as half of all public assistance to transit is unavailable to subsidize more extensive service or lower fares, because it is absorbed by higher operating expenses; see Don H. Pickrell, The Causes of Rising Mass Transit Deficits, Report MA-11-0037, Harvard University, July 1983.)*

[8] *Monica Surber, Donald Shoup, and Martin Wachs, "Effects of Ending Employer-Paid Parking for Solo Drivers," Transportation Research Record, Number 957, 1986, pp. 67-71.*

at selected federal buildings in the Washington, D.C. area for a brief period during 1979 and 1980, the number of employees driving alone declined by as much as 40 percent at some sites.[9] Similarly, when parking prices equal to 70 percent of market rates -- then only about $1.00 U.S. per day -- were imposed on Canadian government employees in Ottawa, the number driving alone to work declined by 23 percent, while commuting by transit increased correspondingly.[10] A variety of other evidence confirms the substantial effect that employer-paid parking can have on commuting behavior; when all of the available evidence is considered together, the best estimate appears to be that at least 20 percent of commuters who now drive alone would instead choose to carpool or use public transit if they were required to pay market rates for parking they now receive free of charge.[11]

Peak hour auto commuting is largely responsible for increasingly widespread urban and suburban traffic congestion, and also contributes heavily to both air pollution levels in our cities and the transportation sector's substantial energy demands. Thus employers who encourage their employees to drive to work by providing free parking contribute significantly -- if unwittingly -- to the severe environmental consequences of our nearly exclusive reliance on the automobile for urban travel. The major reason that so many employers provide free parking is its tax-exempt status, which stems from its classification under the Tax Reform Act of 1984 as a "working condition fringe benefit." The rationale for exempting such benefits from income taxation is to encourage employers to provide desirable working conditions, and thus to increase employment and encourage higher productivity.

While commuting to work is a necessary cost incurred in earning a living, it is difficult to imagine why doing so by automobile warrants such a generous federal subsidy, particularly when so many other federal policies simultaneously attempt to discourage driving. Unlike the tax exemption of fringe benefits such as health insurance and retirement savings, which encourages behavior that federal policy deems socially responsible, exempting the value of employer-provided parking from income taxation rewards behavior that aggravates transportation problems and their environmental consequences. The nation is unlikely ever to meet its repeatedly proclaimed goals of utilizing its transportation investments more efficiently, improving urban air quality, and reducing its dependence on non-renewable energy resources -- all of which depend partly on substituting carpool and transit travel for driving alone -- as long as so much parking continues to be supplied free of charge to commuters. At the same time, federal policies designed to further these goals are destined to remain both

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[9] *Gerald K. Miller and Carol T. Everett, "Raising Commuter Parking Prices: An Empirical Study," Transportation, Volume 11 (1982), pp. 105-129.*

[10] *Transport Canada, The Effects of the Imposition of Parking Charges on Urban Travel in Ottawa: Summary Report, Report TP 291, February 1978, p. 11.*

[11] *This evidence is summarized in Don H. Pickrell and Donald C. Shoup, "Employer Subsidized Parking and Work Trip Mode Choice," Transportation Research Record, Number 786 (1980), pp. 30-38.*

disappointingly ineffective and unnecessarily costly unless employers stop subsidizing their employees' parking.

Fortunately, they can be readily dissuaded from doing so. By amending the federal tax code to reclassify employer-provided parking as a taxable fringe benefit, with its cash value required to be estimated and reported by employers in the same way that many other fringe benefits are now treated, the primary motivation for employers to provide parking would be eliminated. Parking benefits would still be subject to the de minimis rule, so that employers who provided parking with a low market value (and thus did not induce increased auto travel among their employees) would not be subjected to costly and burdensome accounting and reporting requirements. Although this might be a politically unpopular reform, it would have the desirable effect -- at least from this Committee's viewpoint -- of increase federal tax revenues, initially by as much as $5-10 billion dollars annually.[12] However, the revenue-generating potential of taxing employer-provided parking would decline over time, as eliminating the major inducement for employers to supply it caused progressively more of them to abandon the practice, and instead to encourage commuting by carpools and public transit.

A more palatable variant of this proposal -- although one without its revenue-generating potential -- would be to amend the federal tax code to permit employers to classify some limited amount of each employee's gross earnings as a tax-exempt "travel allowance," subject to the condition that the employer did not also offer free parking. Employees who currently drive to work could use the resulting increase in their after-tax incomes to pay for parking, but those who decided to commute by other means could reserve part of the increase for other purposes. In effect, this proposal would amount to an increase in the standard deduction from earnings, except that even those who do not use the standard deduction in computing their taxable incomes would be eligible to receive it. Allowing employers to pay a tax-exempt travel allowance would explicitly recognize that commuting to work is a necessary cost entailed in earning an income, yet would allow employers to compensate workers for this cost without encouraging them to commute by automobile.[13]

In deliberating whether to adopt such a measure, it is particularly important for this Committee to recognize that increasing the current tax exemption of

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[12] *The annual increase in federal income tax liability for an employee receiving a free parking space worth $2.75 per day would range from $103 to almost $227, depending on the employee's taxable income level. Virtually all parking in the central city areas of the nation's large cities (those over 500,000 population) is at least this costly. If three-quarters of the nearly 30 million commuters working in those areas receive free parking (as the earlier Nationwide Personal Transportation Survey indicated), taxation of its value would yield $4.95 billion annually at the current distribution of taxpayers among marginal tax brackets. (The 1980 Census revealed that 28.2 million employees commuted to central city jobs in U.S. cities with populations over 500,000; see Alan E. Pisarski, Commuting in America, The Eno Foundation for Transportation, Inc., 1987, Table 3-4, p. 40.)*

[13] *For a more detailed discussion of this proposal, see Donald C. Shoup, "Cashing Out Free Parking," Transportation Quarterly, July 1982 (Volume 36), pp. 35-64.*

employer-provided transit passes and vanpool benefits is not likely to be an effective substitute for acting to reduce the prevalence of free parking. Increasing the already substantial subsidies to these modes is destined to be ineffective in promoting their more widespread use, because the costs of commuting by alternate modes will remain nearly irrelevant to most employees' decisions to drive to work as long as free parking continues to be available to them. There is no better lesson in the futility of attempting to raise subsidy levels for alternate modes to offset those for automobile travel than the experience of the past decade, during which government outlays to build new transit facilities and to promote expanded transit service and lower fares totaled nearly $100 billion, while the historical decline in transit's relative importance as a means of commuting and the dramatic growth of automobile travel both continued unabated.[14]

During this same time, outlays to construct new and expanded highway facilities in the nation's cities amounted to nearly three times this figure.[15] Yet in the face of these massive investments in both improved transit service and expanded highway capacity, traffic congestion continued to escalate dramatically, while the environmental quality of many of our nation's cities continued to deteriorate. By now, it should thus be clear that no amount of federal subsidy for travel by transit or other "high occupancy" modes will ever suffice to offset the powerful inducement to drive that is now offered by exempting the value of employer-provided parking from income taxation. And it should be equally clear that in the presence of such a strong financial incentive to drive an automobile, even the dramatically expanded program of highway construction now being advocated by various groups cannot avoid the intensification of traffic congestion in the downtown areas of out nation's cities, or forestall its spread to their suburban areas.

What the phenomena of declining transit use, intensifying congestion levels, and spreading air pollution share in common is one important root cause: layer upon layer of subsidies to automobile travel, both direct and indirect, by all levels of government. One of the most important of these, the widespread provision by employers of free parking for those who drive to work, is readily amenable to action by this Committee to eliminate it. Although taking such action will require members of the Committee to display conviction and leadership rather than bowing to political expediency, the time for doing so has clearly arrived. The alternative is another decade of decline in transit's role in

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[14] *This figure, which is expressed in today's dollars, was tabulated from Urban Mass Transportation Administration, National Urban Mass Transportation Statistics: Section 15 Annual Report (annual), various issues. The fraction of workers commuting by public transportation declined from 7.3 percent during 1969 to 5.7 percent in 1977, and further to 5.3 percent by 1983. At the same time, the fraction of all trips in U.S. urban areas -- including those for purposes other than commuting to work -- made by public transit declined from 2.4 percent during 1977 to 2.2 percent in 1983. These data are reported in Federal Highway Administration, Personal Travel in the U.S.: Volume I, 1983-84 Nationwide Personal Transportation Study, August 1986, Table 7-6, p. 7-9, and Table 6-7, p. 6-6.*

[15] *Again expressed in terms of its equivalent in today's dollars, this estimated was tabulated from Federal Highway Administration, Highway Statistics (annual), various issues.*

our nation's urban transportation system, spreading urban and suburban traffic congestion, and deteriorating environmental quality, while annual spending levels escalate toward the $50 billion mark -- and surpass it, if the advocates of increased federal highway and transit appropriations prevail. By taking this decisive step toward more rational pricing of automobile travel, this Committee can act to reverse one of the most important defects of current federal transportation policy, thereby improving both the functioning of our nation's transportation system and the quality of our urban environment.

Chairman ROSTENKOWSKI. Thank you. Just one question.

Some of you have suggested that the gas tax be increased but earmarked for transit use rather than budget deficit reduction.

Wouldn't deficit reduction have a favorable impact upon the costs of borrowing for transit improvements? If we didn't earmark it, wouldn't just budget reduction have a favorable impact?

Mr. Downey.

Mr. DOWNEY. If I might respond, Mr. Chairman, I think it would. Certainly getting control of the deficit which your plan is the first comprehensive step that I've seen toward it would have that beneficial effect.

The question is whether transit systems, and I just speak for them, can afford to finance all of their capital needs through debt and thereby drive up fares.

We have financed a substantial portion of our needs through the Federal transit program and the gasoline tax. Traditionally, both at the Federal level and at the State level, it has been the place that transportation has looked to finance its needs.

Infrastructure has been squeezed over the last 20 years by budget problems, both at the Federal and the State level, defense at the national level, entitlement programs, all of those have squeezed in on discretionary projects, discretionary categories of the budget, and we've seen it in terms of infrastructure decay.

We are very concerned that we not lose the access to the source of money that traditionally has been the means of meeting those needs.

Ms. Pierce, would you like to make—anyone else—Ms. Pierce.

Ms. PIERCE. From the Tennessee perspective, and we are not a particularly rich State, but we have had two major bridge collapses in the last 5 years. Our State government has in fact increased its contribution by five times in the last 5 years.

On the other hand, in the time that I've been on the board, the Federal contribution has decreased by 51 percent in real dollars.

Now, we are at the point in Memphis, which is a large city and which has a lot of intercity folk who depend on it, we have several different things that apply to this.

We are at the point of increasing our fares, decreasing our service, and close to the point of having to go out of business if we have a severe cut. Under the cut that is proposed by the plan that was introduced last week, we will have severe cuts, and all these people who were transit dependant will in fact be having to go on welfare.

But we also are at the point of gridlock in many areas. And as far as the environment is concerned, we feel that transit benefits everybody in our community whether they do or do not ride the bus. And as far as the environmental impact, as far as the economic impact, it is an important thing which should be a national project.

If the Federal Government did not have the system of highways that it does, they would not have been developed by the State. And although our State is providing I think now as they can, I think we are in dire stress.

Chairman ROSTENKOWSKI. Let me ask you. How much of the failure of the public to use the transportation system do you think is due to the public's apprehension about crime?

Ms. PIERCE. Are you talking to me?

Chairman ROSTENKOWSKI. Anybody. Ms. Pierce, anyone.

I am concerned with respect to the fact, at least in my city, that there is a great deal of apprehension about using—particularly in off-rush hours—using public transportation because they are fearful of a crime element.

What do you think is the reaction?

Mr. DOWNEY. Obviously coming from a large city and a large transit system, that is a concern for our people as well. When we've done polls of our riders, it is among the top two or three concerns that they have, we feel we have to address it in a number of ways. We have a very large police force, over 4,000 transit cops, and they are deployed in a way that attempts to give people comfort about the system.

We feel also rebuilding a system, making it better, making it lighter, getting better lighting into the stations, getting better information to the riders, getting trains that work, and getting more riders back on the system will make a difference. You can't have a cop everywhere, but I think what really makes a difference is when you are there alone. When you see more riders, you have a greater comfort about what's going on on the system.

Mr. COOK. Mr. Chairman, on the latter question and then on the former question.

On the latter question, in our business, we suffer in the out-of-the-way facilities for the distance people are willing to walk from their point of employment to where they park their car.

Transit, and I have had some experiences and served on a transit authority here in this area, has always historically had the problem of equality of economics in line. Certain lines have no problems. Certain lines have problems. The same thing occurs in the crime sense. How far, what kind of neighborhood, and what is the destination?

Now, on the former, and the question that you asked, and I think they tie together, I consider transportation the beginning point to solve urban centers' really critical issues. One is housing; the second is jobs; and the third is education. A strong central area, and it can be a suburban area as well as a urban center, must have a first-class method of taking people from a house to a job and return.

And right now we are not designed, nor do we have the beginnings to put those three pieces together. And transportation is the arena to do it. And that is the reason I would respond as they have, that there must be a dedication to the solution of transportation. And although the deficit—and I understand your personal involvement—is very critical, there cannot be a beginning to a solution if we do not have a dedication to the transportation system because I think that is where it begins.

Mr. PICKRELL. Mr. Chairman, there is a small but growing research literature on the question of the extent of the deterrent to transit use that is offered by the fear of crime. That literature, as I understand it, leaves little doubt that in certain very specific locations, the fear of crime does introduce a substantial reluctance among urban residents to use transit. But that literature also reveals that the extent of that reluctance, except in the very worst

cases, pales by comparison to the reluctance of the public to use transit that is introduced by the heavy subsidies to drive their automobiles to work and elsewhere, much of which is introduced by the current structure of the Federal Income Tax Code.

So I think it's important to appreciate that while the fear of victimization by crime is important in some locations, by comparison to the wider reluctance of the public to use transit that is spawned by the heavy subsidization of automobile travel, it is probably not a very significant factor.

Mr. COOK. Mr. Chairman, I don't know whether you want the rate, but I would argue that people use transit based on its availability. People use transit based on their work and their play and their other habits, school, if it's available in quantity when they want it.

There are far more people who would rather use transit but find they use their car because of the structure of our society.

I operate 50,000 off-street spaces. In the event that there is a tax, there is some loss to me. But I am not here pleading for that peculiar reason or personal reason. You cannot build a strong economy by shutting down the primary method. You can build a stronger economy by building up alternative methods.

And the decrease in the use of the car will come only when there is that strong alternative method. And I can make a lot more money with my 50,000 spaces with strong competing systems, because you won't build any more parking spaces.

A parking space is a very expensive thing to build. Very few of us in this country are paying the owners what it costs to build the space and that's what most of us do. We're service providers. We are not paying the owners of those spaces the true investment cost for that parking space. And most of us would be delighted. Most of the builders, most of the employers would be delighted to see a less expensive process to provide the employee with what he needs. And transit ought to be able to provide that.

I signed the compact here—after 20 years of owning my business in the sixties—as an elected official of the Alexandria City Council, to have a public regional metropolitan transit authority. I voted funds to support that authority. I think we have a magnificent system. But you are going to harm society, not help it by taking away the trust funds for joint use of highways and mass transit.

Chairman ROSTENKOWSKI. Any further questions? Any member? Mr. Gibbons.

Mr. GIBBONS. I just want to ask you, Mr. Downey, what is the problem with you getting access to the bond market? You or the transit people?

Mr. DOWNEY. We have no problem directly with access to the market.

Mr. GIBBONS. I thought I heard you say something.

Mr. DOWNEY. Talking about the efficient access to the market. We feel that if we were able to have less restriction on the reinvestment of our proceeds, we would be able to finance more efficiently. And there are some concerns about projects where private operators are involved with the public agency and the effect that the bond caps and the alternative minimum tax have had on those

types of financings. It has made it difficult to put those kinds of projects together.

Mr. GIBBONS. Well, I can understand an alternative minimum tax, but can't the States set the priority for that bond cap and just slide those semipublic facilities ahead of some of the other boondoggles we finance in that thing?

Mr. DOWNEY. I wish they would be able to.

Mr. GIBBONS. They can. We don't prohibit them to. It's just a matter of courage I guess as much as anything.

Mr. CARDIN. Mr. Chairman.

Mr. GIBBONS [presiding]. Yes. Mr. Cardin.

Mr. CARDIN. Mr. Chairman, thank you.

Mr. Downey, let me follow up on what Mr. Gibbons has been asking. In your statement you indicate that you support the dedicated increase in the gasoline tax to give public transit industry a financial foundation for long-term planning designed to expand transit share of the transportation market and reduce pollution from mobile sources. And obviously that's a goal that I share. I am glad to see your statement in that regard.

I am curious, with the current tools that transit has, the use of your own financing revenues that you generate, and through State and local funds, could you give us some history as to what has happened to the transit share of the transportation market? Is it stagnant, is it decreasing, is it increasing, what has happened?

Mr. DOWNEY. Let me generally characterize it, and I would like to submit some data for the record in terms of the actual figures.

But the transit share of market obviously declined drastically following World War II, and on into the midsixties, early seventies. Since then, we have stabilized at a relatively low share of the total market. I think something in the neighborhood of 6 percent of national trips.

But I think it is significant that with the investment that has been made over the last several years, Federal, State, and local, in the case of my system, 70 percent of the $16 billion we have invested in the last 10 years has been non-Federal so we are making a significant effort. We have been able to stabilize.

In New York, we actually have growing amounts of ridership on both the subway and the commuter railroads. But the goals that have been set forth at the Transit 2000 Task Force are looking well above the present levels, and saying to be fully effective in terms of meeting the environmental issues. We set a goal of a share of market equal to what is now achieved in Canada where the society is similar to ours, land use pattern somewhat similar to ours, and transit ridership share of market is twice ours. And we said we really need to seek to reach that kind of a goal.

Mr. PICKRELL. Mr. Cardin, may I respond?

In my prepared testimony, you will find information that reveals that the fraction of workers commuting by public transportation in the United States declined from 7.3 percent during 1969, to 5.7 percent in 1977, and further to 5.3 percent by 1983. At the same time, the fraction of all trips in U.S. cities, including those for purposes other than commuting to work made by public transit declined from 2.4 percent during 1977, to 2.2 percent in 1983.

All of the available evidence that we have suggests that nationwide, with some exceptions such as the New York figures to which Mr. Downey referred, the fraction of travel both for work and other purposes made by transit has continued to decline. This has occurred despite the investment of well over $100 billion in our urban transit industry during that time.

I believe that this reveals that no amount of Federal, State, or local subsidies for transit, or even for other high occupancy modes, such as vanpools, will ever suffice to offset the powerful inducement to drive to work that is now offered by exempting the value of employer-provided parking from Federal income tax.

Mr. CARDIN. Do you agree though, Mr. Downey, that a reasonable goal would be to double the share of mass transit?

Mr. DOWNEY. That's an extremely ambitious goal. Whether it is reasonable is a judgment that——

Mr. CARDIN. Let me just ask one more question. We gave emphasis to rail in the last 20 years or so. Have we seen a shift of the share that's handled by rapid rail then from traditional bus routes? Has that been hard?

I mean you indicated maybe it's stabilized, maybe it's declining, the share. But what impact has the new rapid systems had?

Mr. DOWNEY. They have varied where they have been put in place and transportation and development policies that surrounded those. But I think there are some key success stories. I think the rapid rail system in this region is one of them, where it has increased its share of the market, where it is serving now the third largest number of rail riders in the country. I think it shows how to put in the context of a policy and said we'll emphasize that, we'll make the bus system a feeder to it.

They are doing more now to provide parking, to get people to do those things so it can work.

Mr. PICKRELL. May I respond again? I recently completed a study for the Department of Transportation reviewing the results of building new rail transit systems in nine U.S. urban areas. Unfortunately, the success stories, such as the one here in Washington, are few.

I would be happy to submit for the record or provide you with copies of that study. By and large, the record of our substantial investments in new rail transit facilities in cities that did not previously have rail transit service has been extremely disappointing. It has not been an encouraging use of Federal and other public funds, in my opinion.

Mr. COOK. Mr. Cardin, what is fascinating to me is that I am supposed to be the conservative who is only interested in a business relationship, and yet I find myself here saying that in order for this society to come to grips with the critical issues of the day, we must be building up things, not tearing down things. The concept of transit—mass transit, light rail, heavy rail—and the intermingling uses of roadways, lanes, and bridges by cars can be compatible, and can be critical in the economy of the center city which this country has spent 50 years since the war to restore so that all of its citizens have a place.

The housing problems are really built around one basic fundamental thing: How do we get them back and forth? I think you're

starting to see decades of attempt at accomplishment when you start to see the rising costs of the automobile. And the statistic to keep your eye out on is the rising statistic, and it's true in this area, we have gone up *x* percent in people. We have doubled in the amount of automobiles. Will that continue? And what are the costs and how to get to it? And you do not do it by tearing things down. You offer the alternatives. There is too much of our society that cannot get along with that.

Mr. CARDIN. I appreciate your testimonies.

Mr. GIBBONS. Further questions of the witnesses?

[No response.]

Mr. GIBBONS. Thank you, gentlemen and lady.

Our next witnesses are a panel composed of the Florida Audubon Society, Mr. Charles Lee; the Friends of the Earth, Mr. Brent Blackwelder; the National Association of Regulatory Utility Commissioners, Peter Boucher.

Let's see. First of all, Mr. Lee from the Florida Audubon Society. I welcome you here, and you may proceed.

STATEMENT OF CHARLES LEE, SENIOR VICE PRESIDENT, FLORIDA AUDUBON SOCIETY

Mr. LEE. Good morning, honorable members of the committee. I am Charles Lee, senior vice president of the Florida Audubon Society. Our organization is the oldest and largest environmental organization in the State, with over 35,000 members and 46 local chapters throughout the State.

On February 28, Richard Stewart, Assistant Attorney General and head of the Land and Natural Resources Division of the Department of Justice, wrote the following warning to the State of Florida:

> The ecological threat to the Everglades National Park at Arthur Marshall Loxahatechee Wildlife Refuge posed by the nutrient laden water from the Everglades agricultural area, has reached crisis proportions.

These comments were conveyed to the State by the Department of Justice because the United States is in litigation with the State of Florida over the State's failure to enforce pollution laws to protect the Everglades. Florida Audubon and other environmental organizations, that comprise the Everglades Coalition, have intervened to support the Department of Justice in this litigation.

The Everglades have also been the subject of preservation efforts undertaken by this Congress. In 1989, you enacted legislation authorizing expansion of Everglades National Park by some 107,000 acres. This is outstanding legislation that was passed unanimously by this House.

Ironically, the Everglades that we've all set out to save at significant and appropriate expense to the taxpayers, is also the victim of Federal tax, farm, and foreign trade policies that are directly supporting the sources of pollution that threaten the ecological death of the area.

This pollution is largely caused by the cultivation of sugarcane in the Everglades agricultural area. This crop would likely not be grown there in significant quantities if it weren't for the Federal loan guarantees, import quotas, and tax policies that subsidize its

production. The growing of sugarcane necessitates the drainage of muck soils which decay and when dried release phosphorous into the water. This phosphorous moves south into the areas of the Everglades that are dominated by native habitat, and changes that habitat adversely.

A widespread pattern of these vegetation shifts has been identified, and it currently threatens to extinguish such species as the Everglades kite and the wood sorrel which have been designated as endangered by the Secretary of the Interior.

In addition to polluting the Everglades, sugarcane production consumes excessive amounts of water. This is water otherwise needed by the natural ecosystem and necessary for the potable water supplies that serve the 4 million residents of Dade, Broward, and Palm Beach Counties in Florida's rapidly urbanizing southeast coast.

Compared to the economic activity that occurs in those urban areas, the contribution of sugarcane to the economy is minuscule. However, the consumption of water by the sugar industry is disproportionately large.

When droughts such as the one currently in progress occur, saltwater intrusion threatens the continued use of coastal well fields. A large part of the reason for these shortages is the fact that the EAA demands water from the very source that the coast must utilize, Lake Okeechobee.

Our request today is that the committee consider changes in Federal economic, tax, and trade policies that would remove the subsidy from sugar production, especially sugar production in the Everglades agricultural area.

We also request that proposed additional tax incentives for sugar production be prevented. The changes that should be undertaken include, first, the reduction or elimination of the loan guarantee rate for cane sugar. This is under consideration as a part of the Equity in Reform Act of 1990, currently pending in Congress.

Second, cancellation of the current attempt by the Department of the Treasury to extend the new 60-cent-per-gallon tax credit to the production of ETBE, a gasoline additive produced from ethanol.

Finally inclusion of national interest decisionmaking in the response that Congress must make to the GATT decisions. The response of the United States can either be a response which is indiscriminate, affecting adversely all sugar production regions of the United States, or it could be targeted in a manner that maximizes environmental, employment, and foreign policy benefits.

We believe that directing the economic consequences of the necessary response of Congress to GATT would be in the national interest if those economic consequences are foucsed on the Everglades agricultural area. It would aid in relieving serious pollution damaging the national wildlife refuge and Everglades National Park. It would reduce competition for vital freshwater supplies in southeast Florida, and it would isolate the negative economic effects of reduced domestic sugar production in a sector of the economy which is both dominated by foreign labor and located in an area of rapid economic growth with superior employment opportunities.

Mr. Chairman, in conclusion, the actions of the Federal Government toward Florida's Everglades are currently dominated by counteracting policies. Like a great expensive dog chasing and gnawing at its own tail, the Federal Government is trying to help the Everglades on one hand, while on the other tax and economic programs are providing the economic incentives to continue or to even worsen the pollution that is killing the Everglades system.

Thank you very much.

[The statement of Mr. Lee follows:]

28-808 0 - 90 - 19

TESTIMONY OF CHARLES LEE
SENIOR VICE PRESIDENT
FLORIDA AUDUBON SOCIETY

BEFORE THE COMMITTEE ON WAYS AND MEANS
UNITED STATES HOUSE OF REPRESENTATIVES

MARCH 14, 1990

FLORIDA AUDUBON SOCIETY
1101 AUDUBON WAY
MAITLAND, FLORIDA 32751
(305) 647-2615

Good morning, Honorable Members of the Committee. I am Charles Lee, Senior Vice President of the Florida Audubon Society. The Florida Audubon Society is the oldest and largest environmental organization in the State of Florida, with over 35,000 members, and 46 local chapters throughout the state. We are present today to inform the Committee of some of the adverse environmental impacts of tax, economic, and trade policies that impact Florida's environment, specifically the environment of the Everglades in South Florida.

On February 28, 1990, Richard B. Stewart, Assistant Attorney General and head of the Land and Natural Resources Division of the Department of Justice, wrote to the State of Florida with the combined comments of the federal environmental agencies, concerning the water quality problems in the Everglades. In this communication, Mr. Stewart wrote:

> The ecological threat to the Everglades National Park and Arthur R. Marshall Loxahatchee National Wildlife Refuge posed by nutrient-laden water from the Everglades Agricultural Area (EAA) has reached crisis proportions.

These comments were conveyed to the State by the Department of Justice because the United States is in litigation with the State of Florida over the State's failure to enforce pollution laws to protect the Everglades. The Florida Audubon Society, and other environmental organizations that comprise the Everglades Coalition, support the Justice Department's position, and are intervenors in support of the United States in this litigation.

The Everglades have also been the subject of preservation efforts undertaken by this Congress. In 1989, you enacted legislation authorizing the expansion of Everglades National Park by some 107,000 acres. This is outstanding legislation, that was passed unanimously by this House.

Ironically, the Everglades that we have all set out to save, at significant (and appropriate) expense by the taxpayers, is also the subject of federal tax, farm, and foreign trade policies that are directly supporting the sources of pollution that threaten the ecological death of the Everglades.

The pollution that is the subject of the United States Government's litigation is largely caused by the cultivation of sugar cane in the Everglades Agricultural Area (EAA). This crop would likely not be grown there in significant quantities if it were not for the federal loan guarantees, import quotas, and tax policies that subsidize its production. The growing of sugar cane necessitates drainage of muck soils, which decay when dried. These decaying soils release phosphorous into the water column, and this nutrient moves with the water from the sugar fields into the natural areas of the Everglades south of the EAA.

The native plants that make up the habitat in the Everglades Ecosystem are plants that thrive under low nutrient conditions. When additional nutrients are brought into the native Everglades, the dominant wetland plant species are rapidly displaced by species such as cattails, which are far less hospitable to wildlife. A widespread pattern of these vegetation shifts has been identified, in association with the points where water exits the agricultural lands. Habitat changes such as these threaten the continued existence of endangered species, such as the Everglades Kite and the Wood Stork.

In addition to polluting the Everglades, sugar cane production consumes excessive amounts of water. This is water otherwise needed by the natural ecosystem, and necessary for potable water supplies that serve the 4,000,000 residents of Dade, Broward, and Palm Beach counties of Florida's rapidly urbanizing southeast coast. Compared to the economic activity that occurs in the urban sector, the contribution of sugar cane to the economy is minuscule. However, the consumption of water by the sugar industry is disproportionately large. When droughts such as the one currently in progress occur, salt water intrusion threatens continued use of coastal wellfields. A large part of the reason for these water shortages can be attributed to the irrigation demands of the EAA, which must draw water directly from Lake Okeechobee, the water supply for the coastal areas.

Our request today is that the Committee consider changes in federal economic tax and trade policies, that would remove the subsidy from sugar production (especially sugar production in the EAA). We also request that proposed additional tax incentives for sugar production be prevented. The changes that should be undertaken include:

1. Reduction or elimination of the loan guarantee rate for cane sugar. This is under consideration as part of the Sugar Equity & Reform Act of 1990 currently pending in Congress.

2. Cancellation of the current attempt by the Department of the Treasury to extend a new 60 cent per gallon tax credit to the production of ETBE, a gasoline additive produced from ethanol. Even though this tax credit was considered by Congress last year and failed to be approved, the Treasury Department is attempting to circumvent the legislative process through rule adoption. At minimum, Treasury should be required to comply with the law and suspend the ETBE tax credit pending preparation of a full environmental impact statement. We believe that the extension of this tax credit will lead to increased sugar production in Florida, whether or not ETBE is produced from Florida stocks, as the increased demand for ETBE ethanol in other sugar producing regions will result in market dynamics favoring greater sweetener production in the Everglades Agricultural Area.

3. Inclusion of national interest decision making in the response of Congress to the recent decision of the Council on the General Agreement on Tariffs and Treaties (GATT). The response of the United States to this international trade mandate can be either an indiscriminate response affecting adversely all sugar production regions of the United States, or it could be targeted in a manner that achieves maximization of environmental, employment, and foreign policy benefits. We believe that directing the economic consequences of the necessary response of the United States to the GATT decisions primarily toward sugar production in the EAA would be in the national interest because:

(a) It would aid in relieving serious pollution damaging the Loxahatchee National Wildlife Refuge and Everglades National Park;

(b) It would reduce competition for limited fresh water supplies that may both harm economic development activities in the urban

areas of Southeast Florida and further deprive natural systems of needed water;

(c) It would isolate negative economic effects of reduced domestic sugar production in a sector of the industry which is both dominated by foreign labor and located in an area of rapid economic growth with superior employment opportunities compared to other regions of the nation where sugar is produced;

(d) It would aid U.S. Foreign Policy by economically benefiting Caribbean Nations, which compete most directly with cane sugar produced in the southern United States.

In conclusion, actions of the Federal Government toward Florida's Everglades are currently dominated by counteracting policies. Like a great expensive dog chasing and gnawing at its own tail, the Federal Government is trying to help save the Everglades Ecosystem with some of its Federal programs, while other tax, and economic programs provide the economic incentive to continue or even worsen the pollution that is killing the Everglades System.

We Call on the House of Representatives to respond by adjusting the economic and taxation programs that affect the Everglades system to support, rather than thwart, the preservation of the Everglades ecosystem.

LIST OF EXHIBITS SUBMITTED TO THE COMMITTEE

1. Copy of testimony of Florida Audubon Society before Department of Treasury concerning ETBE Tax Credit.

2. Copy of litigation filed in Southern District of Florida Styled United States of America vs. South Florida Water Management District and Florida Department of Environmental Regulation, et al. (includes federal agency comments mentioned in text of our testimony).

3. Copy of articles in Florida Newspapers concerning EAA Sugar and environmental effects.

4. Copy of paper titled "Resource Policy in the Everglades Agricultural Area" Journal of Environmental Management, 1989.

5. Copy of article from New Yorker Magazine, titled "Big Sugar".

Exhibit 1

TESTIMONY OF CHARLES LEE
SENIOR VICE PRESIDENT
FLORIDA AUDUBON SOCIETY
BEFORE THE DEPARTMENT OF THE TREASURY
INTERNAL REVENUE SERVICE
JANUARY 4, 1990

IN RE: 26 CFR PART 1, ALCOHOL FUELS CREDIT; DEFINITION OF MIXTURE.

Good morning ladies and gentlemen. It is my pleasure to be present today to provide the Internal Revenue Service with our views on the proposed rulemaking concerning the eligibility of ethyl tertiary butyl ether (ETBE) for the alcohol mixture credit determined under section 40.

I am Charles Lee, Senior Vice President of the Florida Audubon Society. For the Record, our address is 1101 Audubon Way, Maitland, Fl. 32751. The Florida Audubon Society is a private, non-profit environmental advocacy organization which exists as a corporation in the state of Florida. We are the oldest, and largest environmental group in the state, with over 35,000 members. Our board of directors has previously gone on record in opposition to government policies to grant price supports and subsidies to the producers of sugar. We believe that the rulemaking at issue here today will have the impact of creating yet another distortion of free market forces influencing sugar production in both the United States, and world markets. The further introduction of such economic distortions has the potential for exacerbating environmental problems that are caused by the practice of growing and refining sugar in the State of Florida. We believe this to be the case whether or not the sugar used in the manufacture of ETBE is directly drawn from stocks of sugar produced in Florida, due to the dynamics of the sugar industry, and the interrelationship of the effect of subsidies and supports with the pricing structure in the entire United States Industry.

We are not here today to give negative testimony about any environmental effect of the combustion of ETBE in motor fuels. We have not researched that issue, and do not present testimony on it here, although we would state that a thorough review of that question (considering both possible negative and positive effects of the additive) would be appropriate as a component of the NEPA documents that we believe must be prepared by the Internal Revenue Service under law.

As we understand the history of this issue, ethanol producers have sought legislative changes to permit ETBE to receive the Tax Credit established by Section 40 through the vehicle of the Deficit Reduction Bill in Congress, but failed to achieve enough consensus to keep that provision in the act which became law. The same ethanol producers are now asking the IRS to do by rule that which Congress chose not to do; to "clarify" the allegedly ambiguous language of Section 40 in favor of an interpretation that allows ETBE to receive the alcohol tax credit, even though ETBE, when it is mixed with gasoline, is not alcohol.

Notably, the Federal Register Notice concerning this rulemaking, published November 24, 1989 at page 48639, contains the following statement as to the purpose of this rulemaking:

> Because no regulations have been issued under Section 40, and because the answer to this question is not clear under the statutory language of section 40, the Treasury Department has determined that this matter should be resolved by reference to policy considerations. After weighing the relevant policy considerations, , the Treasury Department is proposing that section 40 should be interpreted so as to allow the alcohol mixture credit for alcohol used in the production of ETBE. (Emphasis added).

This brings us to our point of contention with the proposed rulemaking. The potential effects of the proposed rulemaking on the quality of the human environment do not appear to have been analyzed by the Internal Revenue Service according to the material contained in the notice published in the Federal Register. There is no "Finding of No Significant Impact" on the human environment included pursuant to 40 CFR, 1508.13 disclosed in the notice.

The environmental Policy Act of 1969, Public Law 91-190, 42 U.S.C. 4321 et seq.) contains both procedural and substantive policy requirements that should have been applied by the Internal Revenue Service in "...Weighing the relevant policy considerations..." that led to this rulemaking proposal. There is no evidence that this has been done.

40 CFR, S 1500.2 provides that:

> Federal agencies shall to the fullest extent possible:
>
> (a) Interpret and administer the policies, regulations, and public laws of the United States in accordance with the policies set forth in the Act, and in these regulations.
>
> * * *
>
> (e) Utilize the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions on the quality of the human environment.
>
> (f) Use all practicable means, consistent with the requirements of the act and other essential considerations of national policy, to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions upon the quality of the human environment.

Further, 40 CFR, S 1500.6 provides:

> Each agency shall interpret the provisions of the Act (Pl. 91-190, 42 U.S.C.4321 et seq.) as a supplement to its existing authority and a mandate to view traditional policies and missions in the light of the Act's national environmental objectives. Agencies shall review their policies, procedures, and regulations, accordingly revise them as necessary to insure full compliance with the purposes and provisions of the Act. The phrase "to the fullest extent possible" in section 102 means that each agency of the Federal Government shall comply with that section unless existing law applicable to the agency's operations expressly prohibits, or makes compliance impossible. (Emphasis Added).

In Florida, the grant of any additional support that would create economic factors more favorable to the production of sugar will have direct and significant negative environmental consequences. The process of growing sugar cane involves continued drainage of a 700 square mile area of former Everglades known as the "Everglades Agricultural Area" (EAA). This drainage causes nutrients, chiefly nitrogen and phosphorous, to be released due to decay by oxidation of dried peat soils. These nutrients are the nexus of litigation brought in the United States District Court, Southern District of Florida, Styled: United States of America v. South Florida Water Management District, and Florida Department of Environmental Regulation, et al. (Exhibit A) which seeks relief on behalf of the Federal Government from nutrient derived damages to Everglades National Park, and the Loxahatchee National Wildlife Refuge. Damage to these areas occurs as nutrient loading in waters drained from the Everglades Agricultural Area produces shifts in patterns of vegetation growth, favoring nutrient tolerant or more nutrient demanding species of plants (such as cattails) over the predominant native plants in the Everglades "River of Grass",

(Sawgrass). These vegetation shifts create habitat that is less conducive to producing benefits for native wildlife species in the Everglades, such as the Everglades Kite, and Wood Stork, two species that have been listed as endangered by the U.S. Fish and Wildlife Service, and which are protected by the Endangered Species Act. The St. Petersburg Times, one of the state's leading daily newspapers, has editorialized that the Sugar Cane Industry in Florida is the "Enemy of the Everglades", including the following commentary:

> As Florida's sugar industry continues to thrive with subsidies and foreign labor, it also continues to gobble up land. In the past 20 years, the sugar cane acreage in production has more than doubled, reaching 421,000 acres (of the 520,000 acres under industry control) last year...The effect may be pleasing in the board rooms of the U.S. Sugar Corporation, but it is proving disastrous in the sawgrass marshes of the Everglades.
>
> The sugar industry, despite its testimony to the contrary, is having a direct and visible impact on a unique part of Florida. In the larger Everglades System, water that is pumped off the farms is choking the natural vegetation. In the public conservation lands between the farms and Everglades National Park, more than 20,000 acres of cattails have been created. The Cattails are an indication of the high levels of nutrients in the water that pours off of the farm lands, nutrients that smother natural Everglades life.

A compendium of news articles and editorials on this subject is attached as Exhibit B. Finally, there is a clear water quantity effect of the Everglades Agricultural Area sugar industry on the dynamics of water availability in South Florida. Excessive water uses in this industry reduce drinking water supplies for the residents of Southeast Florida. The recharge of aquifers adjacent to public water supply wellfields in Dade and Broward Counties

(supplying potable water to nearly 4,000,000 persons) is directly dependent on the ability of the South Florida Water Management District to flow adequate quantities of water to these wellfields during drought conditions. Demands in the Everglades Agricultural area, as well as the effect of agricultural operations on water quality, directly compete against the human needs (and the quality of the human environment) for these citizens of the United States.

There can be little doubt about the direct and specific relationship between United States economic policy (and such matters as tax credits) and the environmental problems facing the Florida Everglades. This relationship has been discussed in a number of journals for some time. An example of the documentation that has been developed concerning this relationship is contained in "Resource Policy in the Everglades Agricultural Area: a Historical and Economic Perspective", Journal of Environmental Management (1989) 29, 83-93 (Exhibit C). This paper was originally produced as a part of the work of the Department of Forestry, University of Florida, Gainesville, Florida, and published in the Florida Agricultural Experiment Station Journal, Series No. 9557. The abstract of the publication concludes that "The interaction of state resource policy and national agricultural policy are shown to affect both the level and distribution of environmental costs".

We believe that the proposed rule which would authorize a tax credit for ETBE would result in the following impacts that would cause an adverse affect on the quality of the human environment in Florida:

1. An increased likelihood that marginal lands will be maintained in sugar production longer.

2. An increased likelihood that additional lands now in other uses (including native lands) will be developed for sugar cane production.

3. Possible shifts in demand for cane/beet/corn derived stocks based on the locational proximity of sugar sources to refineries.

4. Increased dependency on the price support/subsidy/tax credit factors in the sugar industry. To the degree the entire industry is affected by these influences the chances for increased market competition from other sources (Caribbean Nations) is suppressed. This means that the environmentally harmful effects of sugar production in and adjacent to the Everglades will in effect be further supported by the Federal Government.

5. Continued degradation of Everglades Water Quality.

6. Reduction of environmentally acceptable potable water supplies for the rapidly growing human population in Southeast Florida.

The exact degree and intensity of these impacts will vary dependent upon the extent of production of ETBE, the degree to which ETBE production is found more economically lucrative than sale to other consumers; the manner in which the proposed tax credit interacts with other Federal price supports and subsidies; and other factors that require detailed analysis. What is clear is that there is a series of potential negative environmental impacts that could flow from the decision at hand in this rulemaking proceeding, and that Congress, through the passage of the National Environmental Policy Act, (Pl 91-190, 42 U.S.C. 4321 et seq.) and subsequently the Council on Environmental Quality through its rules, have mandated a systematic analysis of such proposals that has apparently not been employed by the Internal Revenue Service to date in the development of this rule, or the assessment of "policy considerations" which are held out by the agency as the underpinning justification for the rule.

In Conclusion, the Florida Audubon Society requests that the Internal Revenue Service:

1. Suspend further activity toward rule adoption until an Environmental Assessment has been prepared, pursuant to 40 CFR S 1501.4 (b).

2. Based upon review, public comment, and analysis of the Environmental Assessment, (see 40 CFR, S 1501.4 (c)) reach a determination as to whether an Environmental Impact Statement should be prepared.

3. If environmental impacts are found to be significant, (It is the position of the Florida Audubon Society that such impacts are likely to be significant), Prepare an Environmental Impact Statement and comply with the procedures provided for in 40 CFR S 1502.

4. Renotice the proposed rulemaking in the Federal Register (should the agency continue to desire to promulgate the rule) based upon the analysis contained in either the Environmental Assessment, or Environmental Impact Statement, whichever is determined to be the appropriate final environmental document.

We believe that compliance with the provisions of NEPA clearly requires the agency to undertake the course of action described above, and urge the Internal Revenue Service to voluntarily undertake the required NEPA analysis as the most expeditious route to reach a final decision in this rulemaking proceeding.

Charles Lee
Senior Vice President
Florida Audubon Society
1101 Audubon Way
Maitland, Fl. 32751

U.S. Department of Justice
Land and Natural Resources Division

Office of the Assistant Attorney General
Washington, D.C. 20530

February 28, 1990

John R. Wodraska
Executive Director
South Florida Water Management District
P.O. Box 24680
West Palm Beach, Florida 33416-4680

Re: Draft SWIM Plan

Dear Mr. Wodraska:

We are pleased to transmit herewith comments on behalf of the United States on the District's draft SWIM Plan. We are sending the original by overnight mail this evening.

Sincerely,

/s/

Richard B. Stewart
Assistant Attorney General
Land and Natural Resources Division
U.S. Department of Justice

/s/

Dexter W. Lehtinen
U.S. Attorney of the
Southern District of Florida

cc: James F. Garner
Chairman of the Board
South Florida Water Management District

COMMENTS OF THE UNITED STATES ON THE DRAFT SWIM PLAN FOR THE EVERGLADES

I. INTRODUCTION

The ecological threat to the Everglades National Park and Arthur R. Marshall Loxahatchee National Wildlife Refuge posed by nutrient-laden water from the Everglades Agricultural Area (EAA) has reached crisis proportions. The District has the opportunity, and the legal responsibility and the necessary authority, to implement aggressive remedial actions immediately. There is no need for more research into the cause of the well-documented deterioration of water quality in the Park and the Refuge which would justify further delay. The EAA is the source of the problem and, in keeping with sound principles of environmental policy and efficiency, the public has a right to expect the EAA to be the focus of the SFWMD's attention in formulating and implementing a solution.

The United States therefore urges the District to achieve the full potential of the SWIM process and the District's legal powers to halt and reverse the progressive, long-term degradation of the Everglades. The District must afford the highest priority to protecting the fragile and vulnerable ecosystems of the Park and the Refuge in surface water management planning. To this end, during the SWIM process, the Park and the Refuge must be granted the benefit of any doubt posed by scientific uncertainty. Further, the District's SWIM Plan should ensure that the Park and the Refuge will no longer be made to bear a disproportionate and unfair share of the burdens of periodic natural extreme occurrences such as droughts and floods.

The justification for such an approach is made apparent by the vast national and international significance of the Everglades ecosystem. Everglades National Park is a World Biosphere Reserve (1976)[1]; a World Heritage Site (1979)[2]; and a

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[1] Biosphere reserves are protected areas of representative terrestrial and coastal environments which have been internationally recognized under the United Nations Educational Scientific and Cultural Organization [UNESCO] Man and Biosphere [MAB] Programme for their value in conservation and in providing the scientific knowledge, skills and human values to support sustainable development. The Task Force on Criteria and Guidelines for Choice and Establishment recognized that successful stewardship of biosphere reserves depends on adequate control of the use of land and water in surrounding areas.

[2] The UNESCO recognized the Everglades National Park as a "world heritage whose importance transcends all political or

(continued...)

Wetland of International Importance under the terms of the Ramsar Convention.[3] There are only two other sites in the world, and none other in the western hemisphere, which appear on all three lists -- Lake Ichkeul, in Tunisia, and Strebarna Lake, in Bulgaria. No other subtropical or tropical wetland in the world enjoys such covert recognition of biological importance.

Congress has long recognized the national and international importance of Everglades National Park. As Congressional debate reflected, "[Everglades National Park] is a country distinctly different from anything else in all our great country if not the entire world." 78 Cong. Rec. H. 9501 (daily ed. May 24, 1934) (Statement of Rep. Treadway). Specifically, Congress has found that "[t]he Everglades National Park is the largest and most important subtropical wilderness in North America. Although it is one of the largest national parks in the country, it contains perhaps the most fragile and unique plant and animal communities in the national park system." H.R. Rep. No. 1455, 91st Cong., 2d Sess. at 2-3 (1970). In addition, Congress recognized the Park's distinctive dependence on water, noting that "[a]nything that affects the water affects the plant communities associated with it and the animal communities related to them." Id.

Recognizing the fragility and uniqueness of the Everglades, Congress provided in the Everglades National Park Enabling Act of 1934 that the Park "shall be permanently reserved as a wilderness, and no development of the project or plan for the entertainment of visitors shall be undertaken which will interfere with the preservation intact of the unique flora and fauna and the essential primitive natural conditions now prevailing in this area." 16 U.S.C. § 410c. More recently, Everglades National Park was designated a federal Wilderness Area. 16 U.S.C. § 1131. These pronouncements impose unique burdens, responsibilities and opportunities for the SFWMD to provide for the necessary protection of the Park's resources, on

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geographical boundaries." The nominating committee found that "Everglades National Park is a superlative example of viable biological processes and whose example of rare and endangered species are of universal interest and significance."

[3] Placement on the Ramsar list is recognition of the global importance of the wetland site, including recognition that "[t]he wise use of wetlands is their sustainable utilization for the benefit of humankind in a way compatible with the maintenance of the natural properties of the ecosystem." Signatory nations, including the United States, agree to promote the "wise use" of wetlands within their territories.

behalf of the people of Florida, the United States and the world.

The State of Florida has itself recognized the vital importance of Everglades National Park. The Park, first classified in 1979 as an Outstanding Florida Water (OFW) and now in the process of being designated one of the first two Outstanding National Resource Waters (ONRW) in Florida, has consistently received the highest possible water quality designations under state law. These nondegradation designations, coupled with Class III state water quality standards, provide additional mandates for providing the Park paramount protection in the SWIM planning process.

Like Everglades National Park, the Arthur R. Marshall Loxahatchee National Wildlife Refuge is characterized by its unique freshwater marsh ecosystem which provides habitat for numerous species, including several threatened and endangered species and one of the largest populations of wading birds in the Everglades ecosystem. The Refuge, the last remnants of the unique northern Everglades marsh, is classified under state law as an Outstanding Florida Water. In addition to its designation under federal law as a national wildlife refuge, the Refuge is designated under the Endangered Species Act as Critical Habitat for the endangered snail kite. It also provides habitat for the endangered Florida panther and the endangered bald eagle. The Refuge provides feeding, roosting, and nesting habitat to thousands of migratory birds, including but not limited to blue- and green-winged teal, ring-necked ducks, American widgeon, mottled ducks, great blue herons, wood storks, great egrets, snowy egrets, and little blue herons.[4] The abundance and diversity of flora and fauna in the Refuge is also critically dependent on the quality and quantity of water and aquatic habitat available in the Refuge.

The degraded quality of surface water inflows from the EAA to Loxahatchee has decimated the historic and essential vegetative diversity of vast portions of the Refuge. Cattails have replaced the delicate native floral communities in thousands of acres in the Refuge, creating a thirteen-mile long swath which in some places in the Refuge is as wide as a mile and a half. This cattail growth is destroying the natural diversity of the marsh and severely reducing the value of the Refuge as habitat for its spectacular bird and wildlife populations. The primary cause of these adverse impacts is the high concentrations of phosphorus and nitrogen in the water discharged from the EAA.

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[4] 244 of the 253 bird species listed on the 1984 Refuge bird list are defined as Migratory in 50 CFR ch. 1 § 10.13 (1986). In 1988, between 30,000 and 40,000 wading birds were fledged in Refuge nests.

The District has been given legal authority with which it can act quickly to save and protect these unique nationally and internationally recognized natural treasures. Given the dire threat now facing the Park and Refuge, this could well be the last opportunity to act effectively on their behalf. An aggressive SWIM Plan if implemented so that it accords Everglades National Park and Loxahatchee National Wildlife Refuge the protection to which they are legally entitled, can make a significant contribution towards resolving water-related problems that have persisted in the Everglades for decades.

II. COMMENTS

A. Identification of the nutrient problem

The draft SWIM Plan contains a clear description of the Everglades nutrient enrichment problem. [cite] It accurately identifies the EAA as the primary source of nutrient enrichment,[5] and clearly articulates the adverse ecological consequences downstream (including impacts on system respiration processes, microbiology, periphyton, marsh dissolved oxygen, food webs, macrophytes, macroinvertebrates, and resulting loss of Everglades wildlife habitat) [cite]. In light of these data, further research intended to establish a link between the introduction of nutrient-laden waters into Everglades marshes and biological community changes which have been observed over the last 20 years is not needed prior to promptly implementing aggressive remedial strategies.

Whereas the draft Plan provides clear evidence of the nutrient problem, it contains insufficient discussion of other water quality parameters, such as pesticides and metals, which potentially pose serious problems. Although the SWIM Plan properly concentrates on the nutrient problem, it should focus more on characterizing, monitoring, managing and regulating water quality problems relating to water quality parameters other than nutrients.

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[5] The nutrient problem, its source, and its adverse consequences to public wetlands have been well documented for over 10 years. Indeed, the SFWMD cites thirteen government publications dating from 1973 (pp. B72, B111-B113) that document the highly degraded quality of water drained from the EAA into the public Everglades wetlands. An additional 24 government publications dating from 1974 are cited (pp. B150-B157) to show the results of research on the biological impacts of this water quality degradation.

The draft SWIM Plan recognizes the inseparable relationships between Lake Okeechobee, the EAA, the Everglades Water Conservation Areas, the Arthur R. Marshall Loxahatchee National Wildlife Refuge, and Everglades National Park. The United States endorses the general need to integrate actions in all of these subregions in order to effect ecologically beneficial water quality solutions.[6]

B. Assessing harm to the marsh resource

1. Natural levels of total phosphorous [TP]

The draft SWIM Plan accurately indicates that natural background levels of total phosphorus [TP] in natural Everglades marsh are extremely low, with little available phosphorus, and that historically, downstream areas received virtually no phosphorus from upstream. Pp. A-10 - A-11. The biota of these marshes quickly assimilated the limited phosphorus available naturally. The United States agrees, in general terms, that natural marsh background contains approximately 0.010 mg/L or less TP.

The SWIM plan should be geared in part toward establishing a biologically-based nondegradation standard for natural background marsh water quality. This standard must be established so as to maintain and restore the full abundance and diversity of native flora and fauna communities throughout, at a minimum, Everglades National Park and Loxahatchee National Wildlife Refuge.[7] Particular attention must be directed towards the definition of reliable biological criteria, consistent with this narrative description of the required water quality, for evaluation and refinement of standards. The most promising areas

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[6] It goes without saying that any remedial actions ultimately decided upon must be consistent with the congressionally mandated purposes of federal interests in south Florida including the Park, the Refuge, and the Central and Southern Florida Project.

[7] This is consistent with applicable state water quality standards, which demand that "[i]n no case shall nutrient concentrations of a body of water be altered so as to cause an imbalance in natural populations of aquatic flora and fauna." F.A.C. 17-3.121(19).

are likely to be phosphatase activity and the community structure of the periphyton (e.g. diversity, pollution-tolerant species, P-content of algal cells, estimates of microbial activity, and substrate decomposition rates) each of which have been shown to be sensitive to elevated phosphorus levels. The District already has some information relating to these biological responses but specific research should be directed toward their use as biologically-based standards.

2. Marsh threshold

The SWIM Plan claims, without sufficient evidence, that native Everglades communities can be maintained while receiving inflow concentrations of phosphorus of 0.030 mg/L. Vol. II, pp. 69-70; pp. A-16 - A-18. There is no evidence in the scientific literature, or in the District's own studies, which supports the contention that the phosphorus content of water in Everglades marshes can be tripled without impacting the native ecosystem. Indeed, there is no scientific support in the draft Plan of any threshold phosphorus concentration, other than natural background concentrations, below which ecological damage does not occur. A true non-degradation approach is necessary to preserve the Everglades system. Such an approach requires that scientific uncertainty with respect to ecological harm be resolved in favor of protecting native wetland resources.

The draft SWIM Plan indicates that an inflow goal of 0.030 mg/L total phosphorus is supportable because that is the concentration of total phosphorus in rainfall. Vol. II, pp. 69-70; p. A-18. The United States does not believe that the quality of rainfall should be used to justify water quality standards for the Park and Refuge without clear evidence that rainfall quality can be expected to be as high as the quality of surface water, which unlike rainfall (when collected) is filtered of phosphorus during sheetflow through the marsh.[8] It cannot be

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[8] In addition, the 0.030 mg/L value is a gross overestimate of natural rainfall concentration. First, the 0.037 mg/L TP concentration given for ENP rainfall in the draft SWIM plan is actually the value for both rainfall and dry deposition. Because

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assumed that rainfall, even in relatively remote areas of south Florida, is unaffected by urban and agricultural activity.

C. Remedial action

1. Source control/agricultural practices

The draft SWIM Plan does not adequately address the possibility of removing or reducing phosphorus at the source. The draft Plan identifies the Everglades Agricultural Area (EAA) as the major source of phosphorus input to the WCA's. In addition, the draft Plan discusses the mechanisms by which farm management practices result in unnecessarily high releases of soil nutrients to surface water runoff. Pp. B-62 to B-71. However, in terms of remedial action the draft Plan focuses on the Water Management Area option, which simply displaces the phosphorus problem from one area to another. The major drawback with the WMA approach is that it focuses too heavily on the use of public lands and public funds to clean up nutrient-laden water released downstream by private industry. Such an approach is inconsistent with the fundamental environmental policy of placing the cost of pollution on the polluters. In addition, with the WMA option, if the assimilative capacity for phosphorus in the WMA's is surpassed, phosphorus-enriched waters will discharge into the WCA's. Furthermore, the

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dry-fall is usually of local origin, reflecting the setting of particles that enter the atmosphere due to local human activities, the dry deposition component of the total deposition TP concentration simply reflects movement of phosphorus from one location to another in a relatively small local area. By contrast, rainfall (wet deposition) was probably the primary external, as opposed to local, source of phosphorus to the Everglades historically. Second, the SFWMD's rainfall value is not volume-weighted. The volume-weighted concentration of rainfall at Everglades National Park (SFWMD data) is 0.005 mg/L total phosphorus. The volume-weighted TP concentration for rainfall combined with dry deposition at the Park is 0.015 mg/L, not 0.037 mg/L as the draft SWIM plan suggests. These volume-weighted figures give a more realistic reflection of the atmospheric phosphorus load. Finally, the higher concentration calculated by the SFWMD may also be due to inadequate removal of contaminated samples from the database, and to inherent inaccuracy in methodologies for measuring dry-fall.

WMA design assumptions may prove wrong, rendering the WMA's inadequate to achieve the required result. Finally, the WMA option allows extensive and unacceptable interim downstream harm before the WMA's are fully implemented. Future SWIM Plan drafts therefore should target source reduction and/or removal of phosphorus as a primary means for resolving the nutrient problem.

The draft SWIM plan discusses the implementation of an agricultural management program. Vol. II, pp. 77-80. However, the stated goal of reducing phosphorus loadings in EAA drainage waters by 26 tons by December 31, 1992 is adequate only as a start. A long-term schedule for additional load reductions should be established. In addition, the draft Plan does not develop a means either to enforce the implementation of the EAA management plan or to ensure compliance with proposed agricultural management practices. Such compliance should be a requirement under the SWIM Plan. An agricultural management program should also apply to all agricultural areas, not just the area associated with mitigation of the Interim Action Plan.

The District should use its regulatory authority to require EAA farmers to clean up or prevent harmful agricultural drainage. Specifically, the District has the authority to place conditions relating to water quality and to implementation of agricultural BMP's on the permits it issues, including permits for management and storage of surface water, consumptive use permits, operating permits for stationary installations, and permits for the management and storage of stormwater.[9] The DER has similar authority to place water quality related conditions on its construction and operating permits for stationary installations.

Significant improvements in agricultural drainage water quality in the EAA can be achieved in the

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[9] The United States emphasizes that the SFWMD's authority to require permits is separate and distinct from its SWIM planning responsibilities. Thus, the exercise of the SFWMD's permitting authority need not await the completion of the SWIM Plan. Indeed, it is the position of the United States in United States et al. v. South Florida Water Management District et al. that the SFWMD and the DER are derelict in not exerting their permitting authority as necessary.

near term by changing farm management practices. These changes should be implemented immediately and required as conditions on the various permits needed by EAA water users. For example, every fourth year, fields which are used to grow sugar cane are fallow from approximately February through October. A few weeks prior to planting sugar cane, these fields are flooded by the land owner in order to kill plant parasites. These fields should be used as water retention fields through most of the rainy season. Under such a system, water pumped from active fields as a result of small storm events would be pumped onto fallow fields, and only after those fields are filled to capacity should water retained on the fields be released downstream. This would make available approximately 100,000 acres for drainage water retention in the EAA during every rainy season, at no cost to the public, and without significant cost to the landowners.

Improvements also could be made in fertilization techniques in the EAA. EAA farmers should be required, as conditions of their various permits, to utilize only the most technologically advanced methods of fertilizer application. Today that would mean using "banding" techniques to apply fertilizer rather than broadcast applications, as noted in the draft Plan. Vol. II, p. 78. This would result in a great reduction in loading of total phosphorus, nitrogen, and other fertilizers to the system. In addition, banded fertilization would not require expenditure of public funds, and, after an initial capital investment, would cost the industry very little.

Immediate improvements in water quality would result from a regulatory scheme or other program which required farmers to incorporate these types of practices. It is possible for this type of system to be implemented in the near-term with each field coming into compliance as the field is planted in a new crop. In this way, within four years, all sugar cane fields in the EAA would be discharging higher-quality water. Additional improvement in water quality entering the WCA's may be achieved in the near term by adjusting water manipulation in the EAA. The SWIM Plan should provide for review of the regulation schedules for EAA water management in order to determine the extent to which such short-term gains may be realized.

The EAA Management Plan in the draft SWIM Plan lists additional EAA management options, including modification of cropping patterns, growing more flood-resistant crops, reducing on-farm drainage rates, revising pumping strategies, revising water table management strategies, filter strip vegetation, on-site retention, stormwater retention or diversion, deep well injection, chemical and biological treatment, and point source reduction. Vol. II, pp. 78-80. Altered pumping strategies alone could reduce downstream phosphorus loads by up to 50%. Future SWIM Plan drafts should greatly expand on the discussion of these and other options, such as on-farm water conservation plans, improvement in inter-basin water transfer and water management, replacement of faulty structures and low-capacity pumps, and leveling fields. Specifically, the SWIM Plan should establish a detailed phase-in schedule for the various options. The lowest cost and most quickly achievable should be identified and required to be implemented at the earliest possible date, followed by implementation as soon as possible thereafter of other options. Where research or demonstration projects are required, the SWIM Plan should establish an expedited schedule for their completion, followed by immediate implementation.

EAA water management plans should be developed on a hydrologic unit basis to achieve the maximum reduction in nutrient loads from agricultural operations. These plans should be developed according to an expedited schedule. The EAA consists of many small drainage districts, each with the ability to control inflows, outflows and water elevations in internal canals. On-farm management practices are directly affected by the water management schedule of the drainage districts due to the porous nature of the muck soils and underlying limestone.

Consideration also should be given to drainage-district-wide flood water retarding/retention areas serving multiple farms. Such areas would reduce the amount of panic pumping while maintaining a sufficient drainage rate to protect crops from flood damage and not create a downstream flooding problem.

2. Water Management Areas

The United States agrees in concept with the use of water management/nutrient removal areas (WMA's) for treating agricultural discharges prior to final discharge into the water conservation areas (WCA's). However, as noted above, the United States believes primary focus is required on practices within the EAA to solve the water quality problem. In addition, the draft SWIM Plan does not demonstrate that the WMA's will perform adequately under the design assumptions included in the draft Plan (8 day water residence time, 1.67 g/m^2/year net TP uptake without management, effluent of 0.030 mg/l TP, adequacy of 40,000 public acres). Vol. II, pp.69-73. The specifications of WMA's to treat waters discharging from the EAA or other nutrient source areas must be based on achieving the standards required to protect water quality in Everglades marshes and not on non-scientific considerations such as ease of availability of land.

In general, future SWIM plan drafts should provide greater design detail for the WMA's. First, the long-term ability to sequester phosphorus in the WMA's, especially during reflooding events which characteristically flush phosphorus from marshes, must be evaluated more fully and the design adjusted accordingly. Second, while it is reasonable to assume that a system of marshes will remove some of the phosphorus from EAA run-off, it is questionable whether these marshes alone can reach the District's "target" of 0.030 mg/L total phosphorus. This is true especially if, as the hydrologic simulations cited in the draft SWIM indicate, 10% of the EAA flow will bypass the WMA's. Moreover, cattails may not bring the phosphorus concentrations in the WMA's down to 0.030 mg/L TP. Consideration should be given to the use of other species to reach the 0.030 mg/L level, and to whether uptake rates associated with such other species will require WMA design modifications. Third, the SWIM Plan does not provide a detailed description of how water is to be managed in these areas. Full consideration must be given to the problems of storm bypass and the need for active management, such as harvesting

of vegetation, dredging and recycling of nutrient-rich sediment and organic matter.[10]

Several of the WMA's identified in the draft SWIM Plan are existing wetlands. The United States does not endorse the use of the Holey Land and other existing undeveloped wetlands as WMA's. Use of these wetlands for receiving agricultural discharges may conflict with the antidegradation policy established in Section 303 of the 1987 Clean Water Act, and promulgated in amendments to Chapter 17-3 of the Florida Administrative Code, and with applicable designated use and water quality criteria. In addition, the applicability of section 404(b)(1) of the Clean Water Act to the WMA's should be assessed in the Plan. Clarification of these issues is required prior to inclusion of existing wetlands in the WMA option of the final SWIM Plan.

The draft SWIM Plan also provides inadequate detail as to funding for the WMA's, and sets forth an unacceptable schedule for their implementation. The draft Plan indicates that it may cost as much as $100 million to purchase the land for the WMA's and to complete construction of required levees and associated structures. The draft SWIM Plan does not provide actual mechanisms for funding the development of these areas.[11] Moreover, even if

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10 Although the design uptake rate of 1.67 g/m^2-yr may be consistent generally with rates reported in the scientific literature, the SWIM Plan should provide greater scientific justification for the uptake rate, taking into account any variations in the uptake rate which would result from the operational and environmental conditions that will exist in the WMA's.

11 The SWIM Plan identifies possible sources of money to fund the development of Water Management Areas. The following is the only discussion of funding in the draft SWIM Plan:

> Full implementation will depend on adequate revenues for the statewide SWIM Trust Fund, plus revenues from the lease of state-owned lands in the EAA, the EAA Special Taxing District, and district ad valorem taxes, and federal participation in several projects, especially those related to ENP expansion and hydroperiod improvements.

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fully funded and implemented, the WMA's as proposed in the draft Plan would not be on line until around the year 2002. This schedule is wholly inadequate to address the urgent concerns of the United States relative to the impact that agricultural drainage is having already on the resources of Refuge and the Park.

D. List of dischargers

The SWIM Act requires "[a] list of the owners of point and nonpoint sources of water pollution that are discharged into each water body and tributary thereto and that adversely affect the public interest, including separate lists of those sources that are: 1) Operating without a permit; 2) Operating with a temporary operating permit; and 3) Presently violating effluent limits or water quality standards." (Vol. II, p. 4; Section 373.453(2), F.S.) These lists are missing in the draft SWIM Plan.

E. Performance-based standards

The quality of water entering Everglades National Park and Loxahatchee National Wildlife Refuge must be of a quality required to maintain and restore the full abundance and diversity of the native flora and fauna communities throughout the Park and Refuge. See F.A.C. 17-3.121(19). All water quality constituents (not only

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[11](...continued)
The plan further recommends that the District investigate the creation of a stormwater utility, or other long term funding mechanism, to operate and maintain the WMA system. Another technique that may be available is land swapping, trading state-owned lands for property needed to implement this plan. The District will investigate other alternative sources of revenue to assist in implementing the long-term recommendations of this plan.

Vol. I, p. 11. A more detailed, realistic plan for funding remedial action is needed in the Plan. In addition, the United States notes that the skeletal funding scheme contained in the Plan does not place the burden of funding remedial actions on the source. It is not apparent why non-polluting entities in the District's tax base, as well as other taxpayers, should bear such a large burden of funding a problem directly attributable to EAA landowners.

TP) must be maintained at levels similar to those under which the system evolved. In addition, water delivered to the Park and Refuge must be in compliance with all federal, state, and local water quality criteria and standards.

1. Loxahatchee National Wildlife Refuge.

The United States proposes that an interim standard for the Refuge be stated in terms of reduction in the annual load of phosphorus. At present, the Refuge receives an annual load of approximately 97 metric tons of phosphorus from the EAA. The proposed interim standard is an annual phosphorus load of 45 metric tons by 1994 and a 25 metric ton annual load by 1996. Longer-range standards of 18 metric tons per year and, ultimately, 9 metric tons per year are required adequately to protect the Refuge. A schedule for annual percentage reductions required to meet these standards should be established as well. The justification for seeking these reductions is that substantial short-term reductions in phosphorus loadings can be achieved by implementation of best management practices in the EAA.

SFWMD data indicate that achieving the OFW designation for the Refuge requires a maximum annual phosphorus load of 9 metric tons in excess of rainfall. This should be the ultimate long-term objective. Marsh filtration in WMA's may be required in addition to best management practices in order to reduce Refuge inflow total phosphorus concentrations to 0.030 mg/L or less, which corresponds to annual phosphorus loads of 18 metric tons or less in excess of rainfall, and ultimately to 0.014 mg/L, which corresponds to an annual phosphorus load of 9 metric tons in excess of rainfall.[12]

2. Everglades National Park

Standards established for Everglades National Park pursuant to the SWIM planning process should

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12 However, the United States re-emphasizes that requiring changes in practices in the EAA as the immediate means for controlling the nutrient problem would appear to be most consistent with the sound policy of requiring polluters to pay for pollution costs.

provide for inflow concentrations that approximate natural marsh background levels. According to SFWMD data, total phosphorus concentrations at marsh stations NP201, G34 and P37, and the inflows at the S12A, S12B, and S12C structures over the period 1976 to 1981, reflect natural marsh background. The flow-weighted and non-flow-weighted mean TP concentrations at the individual S12A, S12B, S12C, S12D, S333, S332, and S18C structures should not exceed the flow-weighted and non-flow-weighted mean TP concentrations for structures S12A, S12B and S12C composited, over the period from 1976 to 1981. In addition, the frequency at which TP concentrations exceed 20 and 30 ppb must not be greater than the frequencies at which TP concentrations were exceeded in S12A, S12B and S12C composited, from 1976 to 1981 (excluding outliers). The proposed standards are provided in Table 1.

F. Compliance and enforcement schedule

The standards established pursuant to the SWIM Plan must be performance-based. The date for compliance with a phosphorus load standard of 45 tons TP to the Refuge and with the interim standards for the Park should be January 1, 1994. This will necessitate adoption of a final SWIM Plan by the end of 1990, and completion of the rulemaking process, with the adoption of rules for implementation of remedial strategies and establishment of a monitoring and very rigorous enforcement program, by mid or late 1991.

G. Biological research and monitoring

The remedies and interim standards proposed for inclusion in the SWIM Plan are preliminary, "first-step" efforts to prevent further degradation and restore the Park and Refuge. The success of these efforts and the potential need for additional measures must be determined with the aid of ongoing research.

1. Phosphorus

A research and monitoring program is needed to develop a biological test for determining whether the Park and Refuge interior marsh is of a water quality consistent with the objective of maintaining and restoring the full abundance and diversity of native flora and fauna communities throughout the Park and Refuge. For total phosphorus, one possible criterion for measuring the required water quality is phosphatase

activity. The justification for looking at phosphatase activity is that change in phosphatase activity is an early indicator of nutrient-related harm. Thus, remedial action in response to a violation of a phosphatase-based standard could be taken before macrophytic or other large-scale changes materialize. A biological monitoring program, including selection of sampling sites and methodologies, needs to be developed in conjunction with selection and refinement of an appropriate biological test.

The justification for this research and monitoring program is that an effective basis is needed for assessing the adequacy of interim standards and remedial action in an iterative process.

2. Other water quality parameters

At present, problems associated with other water quality parameters may be masked significantly by the effects of phosphorus. Thus, less is known about the sources, causes and effects of other constituents in the water than is known in connection with phosphorus. Aggressive elimination of the phosphorous problem is needed so that a research program for reducing this scientific uncertainty can be developed. This research, and an affiliated monitoring program, need to be developed as rapidly as possible, taking into account the masking effect of the phosphorus problem and the need to reduce phosphorus contamination as the first priority. In addition, the SWIM Plan should set the stage for an aggressive management and regulatory program to remedy potential ecological problems posed by other water quality parameters.

H. Water Supply

A glaring omission from the SWIM Plan is its failure to adequately address water supply issues. Water is becoming a scarce commodity in south Florida. As new land is allowed to be put into agricultural production, and urban areas expand, lack of sufficient water to meet all demands will become an increasing problem. The marshes of the Everglades need water to exist. The SWIM plan should explain how the water bodies addressed by the SWIM plan will be provided enough water to improve and maintain them as called for in the SWIM legislation.

Chairman ROSTENKOWSKI. Thank you, Mr. Lee.
Mr. Blackwelder.

STATEMENT OF BRENT F. BLACKWELDER, VICE PRESIDENT, FRIENDS OF THE EARTH

Mr. BLACKWELDER. I'm Brent Blackwelder. I'm vice president of Friends of the Earth.

Last year, Friends of the Earth and the Environmental Policy Institute and the Oceanic Society merged. It's one of the nonprofit sector mergers you may not have heard too much about. But we are now operating, working on national and international environmental issues. And we have affiliates in 37 countries, including several countries behind the now rapidly withering Iron Curtain.

My testimony ranges broadly over transportation policies, energy policies, and ends up with a discussion of tropical forest taxes versus tariffs or quotas. So I will summarize.

I think one of the most important things this committee could do is really look comprehensively at all of the transportation subsidies that now exist. In my testimony, we suggest six areas for basic changes. We support a gasoline tax. We suggest several ways of allocating that tax so that it does not serve to disadvantage poor drivers, but serves as a great boon to the poor who must use public transit in urban areas.

There are ways of allocating some of that money to deficit reduction, if possible, but also some of it ought to go toward building up and improving public transit systems.

We support gas guzzler taxes, gas sipper taxes. Those could be made revenue neutral or could also be arranged in such a way as to provide additional deficit reduction. All these would have the thrust of changing dramatically the way in which our transportation system has evolved, because right now most of our attention goes into highways and airports, but bicycles, which constitute about 1 percent of the modal mix, have practically no representation at the Department of Transportation. Last year, they had zero employees working full time on bicycle issues.

If you did an allocation by modal split, there they would have had 22 people. So, what could this committee do? Several things are possible. One would be to provide some kind of tax credits or benefits to bicycle riders. I mean over 2 million. That's a lot of riders. Many more would ride it if it were safer or if it were encouraged more, or if there were some way of forcing a certain percentage of the highway trust fund to be spent on bicycle paths, or improving bicycle access to transit.

And this, in fact, in a study done in 1980 in the Chicago area, was found not only to provide those benefits but also the best way to reduce air pollution was improving bicycle access. This is another transportation area in which something could be done.

You've heard lengthy testimony about subsidized free parking versus very limited fringe benefits for transit riders. We support dramatically reversing those priorities.

There are two other transportation changes that are very important. And we hope that you could take them on.

One is to impose a weight distance tax on heavy trucks. They pay now 60 to 65 percent of the allocated costs. So they are dramatically subsidized. The trucking lobby continues to push for bigger and bigger and heavier and heavier trucks. What this means from an environmental standpoint with this huge subsidy is that freight which could move three or four times more energy efficiently by rail is then shifted over to this mode. And we know from just looking at the overall safety statistics from the Department of Transportation, one in every three trucks is expected to be engaged in a crash this year, and that the rate of fatalities is 4,500 a year from these truck crashes. And victims in the automobiles are 35 times more likely to be killed than the driver of the truck itself.

One great advantage of changing these subsidies is, of course, from the energy standpoint. And this is another reason for looking heavily at this area.

We also support increasing the waterway user fee, the inland waterway user fee. It does not cover anywhere near the amount of subsidy going into barge canals.

I want to turn to energy now. As we look at opportunities for energy, there are all sorts of ways in which the remaining subsidies for coal and oil ought to be eliminated. We should encourage solar and wind power.

I would add a word of caution, however about geothermal development and hydropower. A number of these projects have serious environmental consequences and, right now, geothermal development is threatening the only tropical rain forest we have in any of our 50 States, on the Big Island of Hawaii. So it makes no sense for taxpayers to be subsidizing that kind of energy development.

We support a carbon tax. We support and commend the committee for doing the chlorofluorocarbon tax last year. I think that was one of the few significant environmental measures that the first session of the 101st Congress was able to pass. More could be done by closing some of the remaining gaps in that tax.

We support Congressman Schulze's bill on newspaper recycling and think that there are a lot of possibilities for looking again at the taxes on virgin materials and ways of promoting more recycling.

There ought to be ways of encouraging more regenerative or low-input agriculture. We suggest a tax on pesticides, herbicides, and fertilizers to go into this very weakly and poorly funded Low-Input Sustainability Agricultural Program, the so-called LISA Program.

I want to turn finally to comments on tropical timber. Initially, we had thought it would be appropriate to impose some sort of a tax on tropical timber. We think now that a quota would be a better way of achieving the goal of eliminating unsustainable deforestation of the tropics. And almost all of the logging, probably over 99 percent of the tropical forest logging, is not sustainable. It is a one-time rape of these precious resources.

And so instead of imposing a tariff, an environmentally based quota, allowing us to import only from those areas growing sustainably, and without infringement of the indigenous tribal people would be the way to go.

In conclusion, I would say in reviewing some of the objections from industry to some of these taxes, they argue that it would hurt

U.S. competitiveness. It is our perception that becoming more energy efficient in all of our processes would lower the price of our products. These energy costs are reflected in all of our goods. And if you look at the energy efficiency per unit of output of Germany or Japan, you find it is double that of the United States.

And it's no irony that the worst energy using nations from a standpoint of benefits, the most inefficient you see, have been the Eastern European nations. Very poor productivity. So we would submit that there is every reason in the world to go forward with these taxes, and we see them to be of great environmental and economic benefit to the country.

[The statement of Mr. Blackwelder follows:]

STATEMENT OF
DR. BRENT BLACKWELDER
VICE PRESIDENT OF FRIENDS OF THE EARTH
BEFORE THE HOUSE WAYS AND MEANS COMMITTEE
CONCERNING ENVIRONMENTALLY BENEFICIAL CHANGES IN THE TAX CODE

MARCH 14, 1990

Introduction

Friends of the Earth is a national environmental organization which last year merged with the Oceanic Society and the Environmental Policy Institute. We have affiliates in 37 countries and work on a wide range of national and international conservation issues.

We commend the Committee for holding this timely set of hearings and commend the Chairman for his recent bold statement in favor of pollution taxes. Pollution taxes, combined with regulations which establish base standards, can provide incentives for the further lowering of emissions and in the long run, these taxes provide economic incentives for the development of waste-reducing technologies. Additionally, the taxes can aide in reducing the deficit, fund new environmentally friendly programs or reduce less desirable federal taxes.

The tax code should be changed to reward environmentally sound activities and to penalize or discourage environmentally unsound activities. Pollution taxes are not a substitute for a good regulatory system but a worthwhile supplement. For example, the tax on chlorofluorocarbons (CFCs), which this Committee approved last year, serves as a supplement to the national and international efforts to phase out the use of ozone depleting chemicals as fast as possible.

We are supportive of the tax proposals compiled in the Blueprint for the Environment. In this testimony we elaborate on some fundamental tax changes which could greatly benefit the environment.

I. TRANSPORTATION POLICY

Many members of Congress have criticized subsidies for mass transit or Amtrak, but a close examination of our national transportation policy reveals that the most extensive subsidies go to cars and trucks. The change over this century in the method of transporting people and freight has had disastrous environmental consequences.

Now ever major city witnesses massive traffic jams and frustrated commuters. Billions of potentially productive hours are lost in these traffic jams. Automotive News has given an estimate of $73 billion in wasted person-hours as the annual cost of traffic congestion to the economy. The staggering air pollution problems stemming from automobile pollution have yet to be solved. Every two decades the United States kills as many people on our highways as we have lost in all the wars we have fought put together.

The automobile experiences a blistering array of subsidies which some authors have estimated at $300 billion annually, amounting to some $2,400 per car per year. (See Stanley Hart, "Huge City Subsidies for Autos, Trucks", California Transit, July/September 1986.) The trucking lobby pushes for bigger and bigger trucks which more rapidly destroy our highways and impair highway safety.

When freight movements are examined, the key fact is that railroads which used to move over 70% of our nation's goods, now carry less than 40%. Even though railroads move cargo three to four times more energy efficiently than trucks, the thrust of federal subsidy is to foster more diversion of rail traffic to other modes.

Here are the basic changes we would like to see:

1) Impose a weight-distance tax on heavy trucks which now pay only about 60% of the damages they cause to roads and bridges.

2) Increase the inland waterway user fee system so that 100% of all costs for building and maintaining the system fall on commercial users. Barge canals damage water quality, disturb fishery habitat, destroy wildlife habitat and harm riparian vegetation. In some areas rivers are practically turned into single-purpose superhighways for commercial barges.

3) Eliminate the discrimination against transit riders in connection with the employee parking allotment. Employers can now provide employees with a tax-free benefit of roughly $300 per month in major cities for free parking but can provide only $15 per month for employees using public transportation to get to work. It would be best to reverse the two fringe benefits so that the larger goes to those who ride public transportation. Furthermore, Congress should eliminate taxes on employer-provided vanpool discounts.

4) Provide some tax breaks for people who commute to work by bicycle. Over two million people get to work by bicycle, constituting about one percent of the modal split. These people, who do not pollute and who make only the most minimal demands on infrastructure, have been seriously discriminated against by the Department of Transportation in terms of adequate of adequate staffing. Based on a modal split, there should be about 22 people in the Department working full time on bicycle transportation issues, but as of last year there were zero. Friends of the Earth asked the House Appropriations Committee to take note of this discrimination and issue a directive which it did. Now we come to the Ways and Means Committee to seek some appropriate way of rewarding the most environmentally sound method of vehicular transportation in the tax code. We advocate that one percent of the Highway Trust Fund money be allocated to bicycle paths and other ways of assisting and encouraging bicycling. A 1980 Chicago Area Transportation Study found that improving bicycle access to public transit is the most cost-effective way of reducing auto emissions. Thus a major effort to promote bike-ride systems should be undertaken. A Worldwatch Institute report "Rethinking the role of the Automobile" notes that if the average automobile commuter switched to bike-and-ride, he would save about 400 gallons of gasoline annually, which is roughly half of the amount used by the average car during a year.

5) Provide a gasoline tax, as recommended in Blueprint for the Environment, of 10 cents per gallon per year for three successive years. Friends of the Earth believes that the revenues from this gas tax should be allocated in the following manner. One third should be devoted to mechanisms to assist low-income drivers, especially in rural areas, and to energy programs such as weatherization which directly benefit the poor. We believe that a gas tax with appropriate allocation of the revenues as suggested in this testimony will provide an essential benefit to the poor, the people who cannot afford cars, and to the elderly or disadvantaged who have to ride public transit today or who live in neighborhoods polluted to a great extent by auto emissions. Without increases in gasoline prices the wrong signals are being sent to the consumer about the real costs of current automobile use. The remaining one third of the money could go for deficit reduction or some other use.

Friends of the Earth is categorically opposed to allocating the revenue from increased gas taxes into more highway building. This would simply compound all the environmental problems which this Committee is trying to address at these hearings.

6) Provide gas guzzler taxes and gas sipper rebates for autos and light trucks. Such a tax system could be made revenue neutral or could provide some surplus for deficit reduction. Such taxes are needed because the cost of gasoline is a small part of the cost of owning and operating a vehicle.

II. ENERGY

Critics who talk about huge costs of trying to halt global warming or mitigate the impacts of the greenhouse effect are 180 degrees from the truth. It is obvious from an analysis of the potential of energy conservation that Americans would save billions from investments in energy efficiency improvements.

For example, improvements in the new efficient fluorescent bulbs to replace incandescent bulbs would save about 80% of the energy used in lighting which is roughly one quarter of total U.S. electric use. The University of Rhode Island saved itself over $100,000 from a retrofit of its lighting. $25,000 alone came from replacing the bulbs behind "Exit" signs with fluorescents. According to the Rocky Mountain Institute, we could eliminate about 75% of U.S. electricity use at a cost on only one cent a kilowatt without changing anyone's personal habits. Why are these sensible changes in energy conservation and efficiency not occurring more rapidly? The answer in part lies in our tax code.

Friends of the Earth urges the elimination of all remaining subsidies for the oil and coal industries. We have long supported significantly raising the federal Coal Royalty and federal coal leasing rates to ensure that the public receive a fair market return for the nation's mineral wealthy, rather than continue to give these precious resources away to industry at bargain basement prices. In addition, we favor the institution of a comprehensive set of tax credits for solar and wind power. We do not favor across-the-board tax credits for either geothermal or hydropower because too many of these projects bring serious problems of their own. For example, geothermal development in Hawaii threatens the only tropical rainforest existing within our fifty states.

Carbon tax

The issue of global warming is one of the most threatening environmental issues facing us today. The tremendous risks it represents, dictates that we move to reduce greenhouse gas emissions. Since there is a strong scientific consensus about global warming, it would be foolhardy not to recognize its likelihood and the dire consequences if it does occur.

Therefore, Friends of the Earth advocates the introduction of a phased-in carbon tax on all fossil fuels consumed. While a carbon tax would have significant revenue raising potential, the goal of the tax would be to reflect more accurately the economic and environmental risks associated with fossil fuels use. Currently, energy prices do not reflect the social costs of energy consumption. This phased-in fee on carbon dioxide emissions would apply to all fossil fuels.

In theory, finding the level at which environmental taxes should be levied is relatively straight forward. One would estimate the future risks associated with releasing an additional unit of pollution into the environment. However, for most pollutants this information is not presently available nor is it reliable.

Even without such definitive information, the main goal of environmental taxes, a supplement to regulatory process, is the reduction of harmful emissions. A reduction of 50% in the emission of CO2 is the long term goal. This could be attained by gradually increasing the emission fee to $45 per metric ton of CO2 over 10 years. It is also important to prevent a shift of the production of energy intensive goods to other countries with less stringent CO2 emission standards. This can be accomplished by taxing such imports and subsidizing those products which are produced based on the U.S. CO2 emission fee standards.

CFC tax

We commend this Committee and the Congress for passing a law taxing ozone-depleting chemicals. The tax which producers, users, and importers of CFCs and halons will have to pay, is expected to raise about $4.5 billion during the next five years.

Taking effect in 1990, the tax starts at a base rate of $1.37 per pound of chemical and will increase over time. It will apply to all chemicals currently controlled by the Montreal Protocol and vary according to how destructive the chemical is to ozone. The tax will equal the base rate multiplied by the chemical's ozone depletion potential, a figure assigned by the Montreal Protocol. This base rate will rise to $1.67 in 1992, $2.65 in 1993, and starting in 1995, increase another $.45 each year.

Friends of the Earth, which pushed hard for the tax, is pleased, but believes that special exemptions should not have been granted to some industries. Manufacturers of halons and rigid foam insulation will be exempt from the tax in 1990 and must only pay a reduced base rate of $.25 per pound in 1991 through 1993. After 1993, they will pay the full tax. Other exemptions include: CFC and halon exports, recycled chemicals, and CFCs used as feedstock to make other chemicals.

Additional provisions of the law, otherwise, reach broadly across the economic sector. Importers of products containing or manufactured with CFCs or halons will pay a tax based on estimates of the substance used in the merchandise. And chemical users will have to pay taxes on the existing stocks they own. (The halon and rigid foam exemption schedule, however, also applies to these taxes.)

As illustrated by Figure 1, unless we phase out presently-regulated CFCs as well as other ozone-depleting substances, we may find that the ozone depletion crisis will not be resolved. Simply phasing out the use of CFCs by 1995 will only level off the emissions of halocarbons. Only by phasing out the use of methylchloroform and carbon tetrachloride by 2000, will real reductions in chlorine levels actually be achieved.

III. PESTICIDE/HERBICIDE/FERTILIZER TAX

Friends of the Earth asks the Committee to consider the imposition of a tax on pesticides, herbicides, and fertilizers to go into a fund for the promotion of regenerative or low-input agriculture at the U.S. Department of Agriculture. Wider use of alternative farming which reduces agrichemical use partly relies on expanded research and field demonstrations. A tax of just 1 percent on pesticides and fertilizers could raise millions of dollars in revenue thereby expanding the Low-Input Sustainable Agriculture (LISA) program and other worthwhile programs.

USDA only began funding LISA in 1988. This program is poorly funded, at $4.45 million annually, at a time when farmers, consumers, and environmental interests are calling for safer agricultural practices. The National Academy of Sciences has called for an increase in alternative agricultural funding. Furthermore, the USDA has also totally neglected the potential of low-input agriculture to rescue financially pressed farmers and has disregarded the substantial environmental benefits from using fewer chemicals and poisons. The time has come to signal a dramatic change in our nation's approach to agriculture by halting the discrimination against environmentally sound farming practices.

Biotechnology, in the meantime, is getting the lion's share of new research money, some of which is being spent on dubious projects such as making crops and forest trees genetically tolerant of herbicides, a development that will only increase groundwater pollution and extend the Pesticide Era rather than end it. It would appear, that more dollars devoted to advancing sustainable agriculture would bring the nation greater agricultural and environmental returns at this time.

IV. RECYCLING

There are various incentives to encourage recycling, but the present system has many contradictions which includes tax subsidies that encourage the use of virgin materials. Incentives for consuming virgin materials, such as below-cost timber sales in the national forests, should be ended and a tax on the use of virgin materials should be implemented. Representative Richard Schulze of this committee, has introduced H.R. 3654, which would establish certain incentives and penalties which promote the use of recycled paper. This bill would penalize major newspapers for not using recycled paper within 5 years. It also provides for a 10% investment tax credit for the purchase of recycling equipment and machinery.

One of the major problems being experienced by many communities which have developed recycling programs to lessen their solid wastes problems, is the absence of sufficient markets for recycled products. The bill introduced by Representative Richard Schulze is an excellent beginning, but additional changes need to be made in the current tax structure which will spur greater use of recycled materials.

V. OIL SPILL LEGISLATION

As members of this Committee know, the enactment of comprehensive oil spill reform legislation is now the subject of a House-Senate conference. Substantial progress has been made in the past year in developing legislation that will, we hope, effectively address three key areas of concern: prevention, spill response, and liability and compensation.

Complementing the programmatic legislation, this Committee and Senate Finance took the lead in 1986 in amending the Internal Revenue Code to establish the financing mechanisms for the proposed new oil spill Trust Fund. More recently, as part of the Omnibus Reconciliation Act passed last November, the financing rate for that Trust Fund was increased from 1.3 cents to 5 cents per barrel of oil.

In order to ensure that the Trust Fund meets its intended purposes, however, further amendments to the Internal Revenue Code are still needed. These amendments would update the 1986 law to reflect the programmatic legislation now pending — legislation that has been significantly influenced by the Exxon Valdez spill nearly one year ago. These needed changes to the Internal Revenue Code, which will be addressed in more detail in a separate letter to Chairman Rostenkowski from the national environmental community, are as follows:

* delete the $500 million per incident limitation on expenditures in Section 9509(c)(2)(A)(i); and delete the $250 million per incident expenditure limitation on natural resource damages in Section 9509(c)(2)(A)(ii);

* revise the "General Expenditure Purposes" provision in Section 9509(c)(1) to reflect the uses of the fund described in the programmatic legislation now in conference;

* delete the appropriations restriction in Section 9509(c)(1)(A), especially for emergency costs of containment, cleanup, damage assessment and damages; and

* increase the borrowing authority on behalf of the Trust Fund, in Section 9509(d), to $1 billion per incident, consistent with a provision to this effect in the Senate's version (Sec. 103(c)(3)(A)) of the programmatic legislation.

VI. TIMBER TARIFF

Background: Deforestation in the Tropics

It is well known that the tropic forests are disappearing fast. The latest figures, generated by Norman Myers for Friends of the Earth UK, indicate that in 1989 142,000 square kilometers of tropical forests vanished. This area, roughly the size of Wisconsin amounts to about 1.8 percent of the world's remaining tropical forests. This gloomy report indicates that if current trends continue, all but a few patches of these forests will be gone in the next 20 to 50 years.

Concern about the loss of these forests is not merely a domestic issue in the tropical forest countries, but a global issue which is critical to the Unite States. The forests hold within them roughly half of the world's plant and animal species, many of them yet uncatalogued by scientists. Not only do these species have a right to continued existence on the planet by virtue of the fact that they exist, but they hold an untapped gene pool which may one day yield valuable resistant strains of crops or medicines. Twenty-five percent of the drugs purchased in a typical drug store are derived from tropical forest species. Vinca alkaloids, a family of drugs extracted from the rosy periwinkle plant found in Madagascar, have made it possible to save 90% of those treated for lymphocytic leukemia. Now, as thousands of species are extinguished annually, the further possibilities for the development of such drugs could be lost forever.

Furthermore, tropical deforestation contributes to global warming. Much of the forest that is lost each year is burned. The fires that consume the forests spew 1.4 billion tons of carbon dioxide annually, 30 percent of the annual build-up. (The leading source of carbon dioxide, of course, is fossil fuel combustion and the US is the world's number one polluter in this regard.) Carbon dioxide is the principal greenhouse gas and one of the main causes of the coming changes in climate brought on by the Greenhouse Effect.

Finally, the fate of the rainforest is a human rights issue. The rainforests are home to a host of indigenous peoples and others who depend on the standing forests for their livelihood, be it for subsistence foods or for so-called extractive products, such as latex and brazil nuts. All too often, development of the forests has come at the expense of these people. The Penan, a tribal people who live in the forests of Malaysian Borneo, have seen their lands and their traditional rights trampled by logging companies so many times that they have taken to blockading logging roads in an effort to protect their homes. In response, the government of the state of Sarawak has changed its forest law to make it illegal to blockade a logging road, even if the blockader owns the land.

Loggings Role in Deforestation

While logging is not the main cause of deforestation of the tropics, it is nevertheless an important one. According to the UN Food and Agriculture organization, loggers cut into 43,360 square kilometers of closed tropical forest each year. This logging accelerates deforestation both directly and indirectly. As a direct cause, the logging often clears an area which is not very well able to recover. Ninety-five percent of the remaining tropical forests are on poor soil unfit for long-term agriculture and prone to erosion. Once the trees have been removed, it is difficult for the forest to regenerate. Even 'selective' logging takes a heavy toll. A 1984 study found that even though only 10 to 20 percent of the wood in a tropical forest area might be removed, an additional 30 to 50 percent was lost in the process of cutting down and extracting the wood.

As an indirect cause of deforestation, logging is often 'catalytic', as it opens up roads into previously inaccessible areas to small farmers, gold miners, ranchers and settlers.

The US is an important market for the timber that comes from the tropical forests. In 1984, the United States imported at least 3.7 million cubic meters of roundwood equivalent at a total cost of some 2.23 billion dollars. These imports included logs, sawnwood, plywood and veneers. Figured into the cost figure are also the furniture and other manufactured wood products from countries such as Japan, Taiwan, and Korea which import tropical timbers, manufacture finished products from the wood and then re-export it.

The Timber Tariff

In view of the connection between logging and deforestation, the idea of imposing a levy on tropical timbers has been proposed to handle the problem. Two reasons are usually forwarded for imposing a levy on tropical timber imports:

1) It would slow tropical deforestation. By raising the price of tropical timber imports, demand for them would fall. Recent research indicates that less than 1/2 of 1 percent of the world's tropical forests are managed sustainably, the more US imports of tropical timbers can be restricted, the less the US would be implicated in the ongoing destruction of tropical forests.

2) It could raise funds to promote sustainable forestry in the tropics. The revenue from the tariff could be channeled into either bilateral or multilateral aid programs targeted at stopping tropical deforestation.

We believe that a tariff might not be the best way to stem tropical deforestation. Undoubtedly it would raise the price of tropical timbers for US consumers of the wood and thereby reduce demand. By reducing consumption of such woods, the US would, at least, relieve itself of some of the direct responsibility for logging-induced deforestation. On the world markets, however, the likely effect would be to lower the price that producer nations received for their wood as demand for that wood fell. The effects of a lower wood price would be two-fold.

First, in the producer nations, the perceived value of the forest lands would be diminished. Since the forest lands would hold a diminishing prospect for generating foreign currency, there would be little incentive to manage the forests in a sustainable fashion. If little money is made on the first cut, why try to regenerate the forest for a second? Instead, alternative land uses would become more attractive, whether it be for an alternative source of hard currency (e.g. converting the land to rubber plantations) or for settlement and agricultural exploitation by the people of the country (e.g. the Indonesian transmigration program or the settlement of the Amazon by landless Brazilians).

Second, the lower price of timber would likely accelerate Japan's already voracious consumption of tropical hardwood. Japan is currently the world's largest consumer of tropical hardwoods. They are also a major customer for US timbers, particularly the cut-rate wood the US is selling from the Tongass. If the effect of a timber tariff were to lower the price of tropical hardwoods, the Japanese could easily expand their imports of timber from tropical producers while curtailing their US purchases.

In short, the effect of a simple tariff could be a combination of more rapid conversion of forest lands to other uses coupled with an increase in Japan's tropical timber imports. There is a way out of this bind, which would be to incorporate exceptions from the levy for timbers and timber products from sustainably managed concessions, which did not impinge on the rights of existing forest dwellers. Such an exemption would create an incentive for sustainable management of the tropical forests.

Environmental Quotas a Preferable Option

Friends of the Earth would propose that instead of imposing a tariff on tropical timber products, an environmentally allocated quota would be preferable. The idea is simple: a quota is set which curbs US imports by a fixed percentage. The right to ship to the US is granted according to the human rights situation engendered by the concession as well as by the sustainability of the management of the concession. The quota would have a number of advantages.

First, it would have the effect of curbing the US consumption of tropical timbers directly and therefore would lessen our contribution to the annual loss of forests that is caused by the timber trade. As mentioned above, this would not preclude the Japanese from purchasing timbers, but it would clear the US of some of the moral responsibility.

Second, while it might lower the price of the timber that was excluded from the US market, it would raise the price of the timber that still came into the US. Therefore, the importers of tropical timber would be very interested in acquiring the privilege of importing the hardwoods into the US in order to capture the 'rent' or high profits that would come from sales in the restricted US market. If the privilege were allocated on the basis of the environmental sustainability of the source, the US could introduce a powerful incentive for attempts at sustainable management of tropical forests.

The above concept of an environmentally allocated quota appears in a Resolution passed by the European Parliament in May, 1989. The quota is allocated according to the environmental sustainability of the wood source. The quotas are gradually tightened until only sustainably managed timbers can be imported. Friends of the Earth sees this as the preferable system of regulating US imports of tropical timbers.

The environmentally-allocated tariff would simultaneously curb the market for badly managed forest products as well as stimulating a market where profits would be higher for more sustainably managed sources. Ultimately, it could be squeezed down to the point where only sustainably managed timber came to the US. While a tariff with an exemption for sustainability could achieve similar goals, the quota seems a simpler and surer means of realizing these ends.

VII. THE QUESTION OF COMPETITIVENESS

It is sometimes argued that taxes such as those we seek will damage US competitiveness on global markets. If anything however, such taxes will increase US competitiveness rather than decrease it.

First, while it is easy to be emotionally moved by the ravages of pollution — the dead fish, the pollution-induced disease and so forth — it is often forgotten that these grim sights represent devastating economic losses. One estimate puts the costs of air pollution alone in the US at $40 billion annually. (State of the World, 1990 p. 104) Therefore, even if taxes on pollution caused certain industries to scale back their operations, that scaling back would also allow for the expansion of other industries, particularly those that produce pollution control equipment or those that depend on natural resources such as fish and timber. In addition to helping the resource-based industries, the general productivity of the economy would be enhanced as public health improved.

Second, a comparative look at the global economy indicates that energy efficiency is related to successful economies. Japan and West Germany, for example, consume roughly half as much energy per unit of GNP output as the United States. On the other hand, the ailing economies of central europe, Hungary, Poland and Czechoslovakia, consume between 50 and 100 percent more energy per unit of GNP output than the United States.

Because of their dependence on imports and their tax structures, the efficient economies of Japan and West Germany have much higher prices for gasoline than the United States. In 1987 West German consumers paid just over $2.00 per gallon of gasoline while their Japanese counterparts spent almost $3.00. The high gas price has spurred their auto industry to produce more efficient automobiles that have seized a commanding share of the US auto market. The 'voluntary export restraints' that protect Detroit signal, in part, the US failure to follow the lead set by other countries around the world in taxing gasoline. Furthermore, the large, inefficient US cars stand little chance of being suitable for export to other countries. To compete globally in automobiles, the US manufacturers need to face markets domestically that have fuel prices similar to the fuel prices in the potential export markets.

While the automobile industry is perhaps the most dramatic sector where our failure to tax heavily energy consumption is responsible for declining competitiveness, the example applies throughout the economy. Inefficient equipment of any sort makes for difficult exports — particularly to the developed countries with which the US conducts most of its trade. The under-taxed and often subsidized energy sector in the US contributes to our trade imbalance by weakening our ability to export. It also raises the US propensity to import. The profligate fossil fuel consumption has propelled US oil imports to their highest level in over a decade, which both upsets our trade balance and is a growing national security risk.

Furthermore, the taxes would generate money which could be used to ease the federal budget deficit. As the deficit shrinks, the US government needs to raise less money from capital markets. Consequently, interest rates would fall, making it easier for US companies to invest in new plants and equipment, allowing productivity to rise further.

There would be short-term adjustment costs from such a change in policy. Consumers would find gas guzzling cars more expensive to run. Companies would discover inefficient production processes draining profits. Offices would realize inefficient lighting cuts revenues. These, however, would be short-term losses. Soon, costs would fall as energy efficiency improved and US manufacturers would discover heightened foreign interest in their products. The industry groups which voice opposition to such taxes clearly reveal the short-term mentality of US manufacturers and businesses — a mindset that lies behind many of the US's domestic and international economic difficulties. Here lies a chance for the political process, often accused of taking an equally short-term view, to demonstrate real foresight by taking measures that would at once benefit the world environment and the US economy.

Will Industry Go Elsewhere?

One final competitiveness argument about such taxes needs to be addressed. Opponents of excise taxes on environmentally-destructive activities argue that firms engaging in such practices will simply go to pollution havens in other countries.

This danger is very real and the process is already occurring. The most shameful example is the way that US wastes are being exported to other countries, primarily to Canada, where the standards for waste disposal are low. As US waste disposal law becomes more strict, the costs of US disposal are rising, making the Canadian option more attractive to US industry. The Canadian government is currently campaigning against proposed laws that would regulate this trade. And, if a developed country like Canada is eager to harbor US waste in facilities that do not meet US standards, one can only imagine the temptation that the hard currency presents to indebted Third World countries.

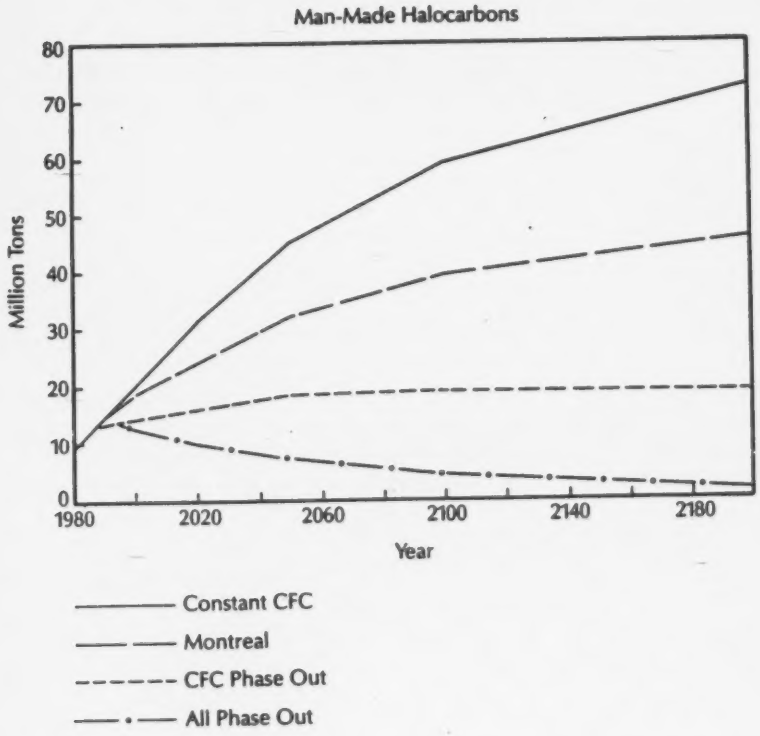
To put this process in the language of economists, one would say that environmental laxity becomes the basis for comparative advantage. Friends of the Earth firmly believes that this trend must be fought throughout the world and that measures to end this situation must become a major component of US negotiating positions in international fora, such as GATT, where world trade regimes are negotiated. Also, the situation points to the need for legislation, similar to the Foreign Corrupt Practices Act, which would regulate the environmental behavior of US firms abroad.

At a moral level, the industry threat to move elsewhere amounts to holding the people and ecosystems of other countries hostage. The US government should not yield to such threats in the environmental or other spheres. Rather the United States should exercise global leadership to ensure the observance of international standards of pollution control and abatement. Friends of the Earth with our 37 affiliates around the world are working to curtail the movement of industries into pollution havens.

Final page of testimony

Figure 1

Ozone-Depleting Atmospheric Chlorine



Chairman ROSTENKOWSKI. Thank you, Mr. Blackwelder.
Mr. Boucher.

STATEMENT OF PETER G. BOUCHER, SECOND VICE PRESIDENT, NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS (NARUC), AND CHAIRPERSON, CONNECTICUT DEPARTMENT OF PUBLIC UTILITY CONTROL, ACCOMPANIED BY CAROLYN CHAMBERS, DIRECTOR OF CONGRESSIONAL RELATIONS, NARUC

Mr. BOUCHER. Good morning, Representative Gibbons and honorable committee members.

My name is Peter Boucher, and I am chairperson of the Connecticut Department of Public Utility Control. I am also the second vice president of the National Association of Regulatory Utility Commissioners, and a member of its committee on energy conservation.

With me is Caroline Chambers, director of congressional relations of the NARUC.

The NARUC represents State officials who regulate the rates and service of gas, electric, telephone, and water utilities. We greatly appreciate this opportunity to be here today to present our views on the taxability of the rebates many utilities give their customers for employing energy conservation measures.

It is common practice among many electric and gas utilities, and now Connecticut water utilities, to provide cash rebates to residential, commercial, and industrial customers who purchase energy efficient appliances, motors, and other energy saving devices, and who otherwise participate in energy efficient programs. In my State of Connecticut, for instance, conservation programs promise to save up to 39 megawatts and 134 gigawatt hours in 1990 alone. Eighty percent of these savings are from commercial and industrial measures, virtually all of which rely on rebate mechanisms.

Connecticut is by no means alone. A recent survey by the Consumer Energy Council of America and the American Council for an Energy Efficient Economy found that roughly half the Nation's electric utility customers are served by utilities with energy efficiency rebate programs.

Last year, the Internal Revenue Service issued a technical advice memorandum which interprets section 61 of the Internal Revenue Code as requiring the taxable treatment of utility cash rebates, and requiring the reporting of such payments to the IRS when they are in excess of $600.

It now appears that this memorandum will be rescinded as the rebates in question were made during a time when the National Energy Conservation Policy Act allowed that the value of any subsidy provided by a utility to any residential customers for the purchase and installation of residential energy conservation measure shall not be included in the gross income of such customers. This provision expired last year, however. So, for the time being, these conservation rebates are subject to taxation.

The NARUC strongly supports the exclusion of conservation rebates from the income of utility customers whether residential, commercial, or industrial. Current policy will have the practical

effect of diminishing participation in energy conservation programs and increasing the administrative costs and burden of administering such programs. The New York State Gas & Electric Corp., for instance, found that cash rebates offered for energy efficient refrigerators increased the market share of that appliance by 25 percent. In addition, the study found that increasing the amount of the rebate had a significant effect on market share. They strongly suggest that taxing rebates and thereby reducing their value will result in fewer purchases of energy efficient appliances. We do not think this is in the public interest.

The NARUC strongly believes that national energy policy should encourage energy conservation. For both costs and environmental reasons, conservation is a vastly superior alternative to building new powerplants. According to the Edison Electric Institute, the Electric Utility Trade Association conservation programs are estimated to save $20 to $23 billion in capital construction in the next 10 years alone. That is a tremendous amount of money. And there is even greater potential for savings in that.

A recent report by the Oak Ridge National Laboratory, entitled "Federal Roles to Realize National Energy Efficiency Opportunities in the 1990s," also tells of the advantages of conservation and efficiency. The report describes improved energy efficiency to be vital to our Nation's energy future.

Its primary finding reads:

> Improving energy efficiency can save money for consumers, increase economic productivity and international competitiveness, reduce oil and gas prices by reducing the demand for foreign oil; enhance national security by lowering oil imports; reduce the adverse consequences of burning fossil fuels, especially acid rain and global warming; add diversity and flexibility to the Nation's portfolio of energy resources, and respond to public interest in and support of energy efficiency.

The report also notes that, "although U.S. energy policy has improved greatly since the 1973 oil embargo, we still lag behind our economic competitors." For example, energy use per unit of gross domestic product in Japan and Europe is half that in the United States, which is what you just heard from the gentleman on my left, one more reason why we should be encouraging energy efficiency.

There are a number of ways to make our country more energy efficient. Stricter energy efficiency standards for appliances, lighting, and automobiles, and broader application of utility demand-side management programs, and least cost utility planning, to name just a few. Taxing rebates for utility conservation programs hampers the important efforts being made to advance these approaches to reducing our Nation's energy consumption.

Eliminating this disincentive to conservation is not only good energy policy, it is good tax policy as well. The IRS has long held that an automobile dealer's cash rebate simply reduces the purchase price of a car as an incentive for the car buyer and, therefore, is not taxable. Utility cash rebates serve a similar function. While the car dealer is motivated by the desire to sell more cars, the utility is motivated by the need to secure the introduction of energy conserving devices in order to avoid or defer the more costly construction of new generating capacity. The rebate benefits both parties in both cases yet they are treated differently by the IRS.

Excluding conservation rebates from gross income would make Federal tax policy more consistent in this regard.

The NARUC specifically commends Congresswoman Barbara Kennelly for introducing legislation yesterday—H.R. 4249—which clarifies that payments made by public utilities to consumers to subsidize the cost of energy and water conservation are excluded from gross income.

We support her bill and urge the committee to act on it quickly and favorably.

Thank you, and I will be happy to answer any questions.

[An attachment to the statement follows:]

APPENDIX

Resolution Urging Congress to Amend the Internal Revenue Code to Treat Utility Cash Rebate Programs for Energy Efficiency Expenditures as Non-Taxable Income to the Program Participants

WHEREAS, It is common practice among many electric and gas utility companies to provide cash rebates to residential, commercial, and industrial customers who purchase energy efficient appliances, motors, and other energy saving devices and who otherwise participate in energy efficiency programs; and

WHEREAS, National energy policy should encourage greater participation in public utility energy efficiency programs; and

WHEREAS, The U.S. Internal Revenue Service (IRS) has recently promulgated Private Letter Ruling No. 8924002 which interprets Section 61 of the Internal Revenue Code of 1986 as requiring the taxable treatment of public utility cash rebates and requiring the reporting of such payments to the IRS when in excess of $600; and

WHEREAS, This ruling will have the practical effect of diminishing participation in such programs and increasing the administrative cost and burden of administering such programs; now, therefore, be it

RESOLVED, That the Executive Committee of the National Association of Regulatory Utility Commissioners, assembled at its 1989 Summer Committee Meeting in San Francisco, California, urges Congress to amend Section 61 of the Internal Revenue Code to specifically exempt from Federal taxation public utility cash rebates to consumers when such rebates are associated with efforts to foster the more efficient usage of electricity and natural gas.

Sponsored by the Committees on Electricity and Energy Conservation
Adopted July 27, 1989
Reported NARUC Bulletin No. 32-1989, page 17

Mr. GIBBONS. Well, Mr. Lee, I guess the sin began in the Everglades when the Federal Government decided to become a great plumber, and put all those dikes around what had been Swamp Okeechobee and turned it into a lake.

Is that where it really began?

Mr. LEE. Well, essentially, Congressman Gibbons, what has happened is we have carved out a 700-square-mile hole south of Lake Okeechobee from which we export water to provide drainage for the agriculture. And then, during dry periods, we have to bring back water in to irrigate. And as such, we have essentially destroyed the headwaters function of a major portion of the Everglades system. That system that was designed in the late 1940's never really anticipated the kind of growth and development we have in south Florida today. And now what we have is 4 million, going on 5 million people on the lowest east coast that are in a position where the loss of the water that is essentially wasted by the Everglades agricultural area, is jeopardizing their potable water supplies in the same way it's jeopardizing the continued existence of the Everglades.

So I guess I would say that, in addition to the tax policies that I discussed in my statement, another set of considerations that needs to be applied is the question of the pricing of water and whether, in fact, as you relate to the Federal projects that are constructed and continue to be maintained and constructed by the Corps of Engineers, whether the taxpayers of south Florida being treated by the water pricing policies, which essentially create a situation where the taxpayer who owns a home or a business in Dade, Broward, or Palm Beach County is paying the lion's share of the cost of moving water that, in terms of gallons or acre-feet, any measure of water, the largest piece of water is used by the agricultural interests.

Mr. GIBBONS. Do members of the panel know what I am talking about when I mention the initials ETBE?

Mr. LEE. ETBE is ethyl tertiary butyl ether.

Mr. GIBBONS. Well, there is a tax credit link between the production of ETBE and pollution of the Everglades, is that correct?

Mr. LEE. That is correct, Congressman Gibbons. Essentially what is being proposed is a 60-cent-a-gallon tax credit for the production of ETBE which can be produced from any ethanol. If it is produced from ethanol in the corn country of the Midwest, then it is our belief that the change in the dynamics of the sweetener market, which is now being served by those sources, will cause greater emphasis for growth of sugarcane in the Everglades agricultural area. It will prop up that industry to a greater degree than it is today.

That will occur even if the first gallon of ETBE is never even produced from Florida stocks. So our concern here is one of a dynamic in the industry in addition to the question of direct production from stocks in Florida. And we feel that there are some environmental impacts that are attached to the ETBE issue that the Treasury Department has not analyzed. We are concerned that they should have prepared an environmental impact statement to look at those questions as well as to look at the relative benefits of the ETBE in terms of its role with regard to air quality versus MTBE, which is made from another type of alcohol. And if that were looked at in an environmental impact statement, we think

that a good deal of information would be revealed that might come to bear on the public interest decision as to whether such a tax credit is in fact in the public interest.

Mr. GIBBONS. Many of our business organizations appearing before this panel have argued that pollution taxes will harm our country's competitiveness with foreign countries.

Can you elaborate on how just the opposite may be true?

Mr. BLACKWELDER. Yes; I would be glad to indicate the view of Friends of the Earth is that by making our economy more energy efficient and our transportation system more efficient, we will improve its overall functioning. And the immense costs of these inefficiencies—of our heavy subsidies of the automobile, for example—result in an estimated $73 billion loss just from people being tied up in traffic jams.

That is an incredible economic loss to the country. And, I think, changing those subsidies around, is only an economic plus along with being an environmental and a social plus. It seems to me that those are the two key areas in which we can see direct advantages in improving our competitiveness, as well as improving the health conditions in our own country.

We should also, I think, be mindful of the need to push international environmental standards because we do not want to create a situation internationally as we found one in the fifties and sixties. Businesses were moving from one State with tough standards to States with laxer standards. This could occur around the world.

And, in my statement, I indicate that some of our concerns directly lie in disposal of hazardous waste in this manner. Right now, a good portion of our hazardous waste is going to Canada which has laxer standards. And if a developed country like Canada is eager to deal with this, the push for Third World countries to get hard currency and accept materials which they have no capacity to deal with responsibly is there.

So, some action needs to be taken to assure international environmental standards in dealing with basic pollution measures.

Mr. GIBBONS. Do we have any international environmental standards now that we could repair to in referring to these enacting legislation?

Mr. BLACKWELDER. We do have some, for example, as a result of the World Bank's activity in chemical plant safety measures that are being worked on as guidelines for chemical plants around the world. Sort of the state of the art.

Also through the World Bank and other lending processes, there are standards that are moving forward in other areas. But I think it would be fair to say that we are really at the initial stage. We know what some of these could be because you would simply take the best measures that have been found in whatever country, measures that have worked the best, and get those adopted for countries around the world. The best technologies, in other words, are the ones that we ought to be urging by each category of industry.

Mr. GIBBONS. Well, the reason I asked that question is that this committee, of course, as you know, has jurisdiction over those imports. And I don't want to enact something that's very vague and is subject to all kind of abuse in the import industry. But I would

think—something has worried me. We are moving ahead in, say, labor standards. We have some standards there, but I was just looking for something to hang on any international arena.

Mr. BLACKWELDER. I think that we are likely to see more of these come along as more and more countries are showing extreme concern about the environment. I think the tremendous resurgence of democracy in Eastern Europe is really connected to the devastation of their natural resources. And they are insisting now on the state of the art in pollution control, which means that they are looking around to ask which country has the best means of dealing with these various sources of pollution.

Mr. GIBBONS. You know, I was in Russia some time ago, and I noticed that they appear to have some kind of environmental movement over there, a grassroots-type thing.

Are you familiar with that at all?

Mr. BLACKWELDER. Absolutely. Last month, we hosted a delegation of seven Soviet citizens. And half of them were Government officials and half of them were from a burgeoning citizen movement. And we signed an agreement to help each other to save the important river systems in each country.

These exchanges are going on more and more, and in every one of those countries, the growth of environmental organizations is at an exponential rate.

Mr. GIBBONS. Have you run into anything like that with China?

Mr. BLACKWELDER. No. It has not happened with China.

Mr. GIBBONS. Or India?

Mr. BLACKWELDER. In the case of India which has enjoyed a democracy, there are a large number of environmental organizations working on sustainable development.

Mr. GIBBONS. How about Japan?

Mr. BLACKWELDER. In Japan, we have an affiliate, Friends of the Earth, Japan. And that is, I think, one of the strongest environmental organizations in Japan. But, on the whole, the environmental movement in Japan I would say is two decades behind where we are in the United States.

We have noted that one of the most important things to do is to make the Japanese's policies much more environmentally sensitive because they have jumped into the position of being the world's largest lender with their bilateral and multilateral assistance. And their policies do not match the environmental safeguards we see from European countries or from the United States.

Mr. GIBBONS. Good point.

Well, Mrs. Kennelly, would you like to inquire?

Mrs. KENNELLY. Thank you, Mr. Chairman, and I thank the panel for their excellent testimony.

I particularly would like to thank Mr. Boucher for helping me in introducing legislation to allow utilities to give rebates for conservation devices to customers tax free.

Mr. Boucher, from your testimony, I think what you are saying, is that while conservation efforts aren't dramatic, for example, you don't see a big utility company or you don't see plant and equipment, the energy savings can add up if you are talking about smaller conservation efforts of a large number of individuals, or small businesses, or all businesses.

Mr. BOUCHER. That's correct, Congresswoman Kennelly.

The programs that we are implementing now in Connecticut and which are being followed in many of the other States, if not most of the country, involve a lot of players. Certainly in all of the residential end uses of electricity and water, the energy conservation impacts incrementally are small. But they add up nationally to significant numbers. The numbers that I indicated in my testimony, in the case of Connecticut, which is hardly one of the largest areas of the country from the standpoint of aggregate energy consumption, are that, in Connecticut we're anticipating saving about 39 megawatts and 134 gigawatt hours in 1 year, the year 1990.

So it does add up. And we are not talking simply about the impact on the rebate programs of residential customers. We are now very heavily targeting and focusing on industry and commerce. And conservation initiatives in those sectors can aggregate much larger blocks of energy consumption or energy saved than even the residential sector.

And this ruling of the IRS, which may be revoked but which is likely to be the policy in the absence of the successful implementation of your own legislative initiative I think would have a much more severe impact on those end users, the large industrial and commercial end users of both electricity and water. I think they are going to look twice as hard at their interest in getting involved in a major energy conservation initiative because that sector is going to be driven by the bottom line and the payback period. And that payback period is going to be drastically stretched out and probably result in decisions not to participate in those kinds of programs.

We are targeting $20 million in Connecticut alone, in the case of just its largest electric utility in conservation initiatives in the industrial and commercial sectors.

We are quite concerned that those programs and the participants in them are going to be discouraged and not be persuaded in the absence of the legislation which you have introduced.

Mrs. KENNELLY. Mr. Boucher, in your experience or the experience of those who are out in the field, what happens now when you tell an individual who has bought a refrigerator that is more expensive than many that he could buy, that now that rebate will be part of his gross income and, therefore, be subject to a tax?

Mr. BOUCHER. Well, the studies that we have seen indicate that the size of the rebate has a direct and significant impact on the decision as to whether to participate in the program.

So that the bottom-line impact on the purchase decision of a residential consumer, if the rebate is going to be $50 or if it is going to be, after taxes, $23 or $15, is going to be significant. There's a very direct linear relationship between the size of the rebate and the success of that being an incentive in going forward with a decision to participate in the program.

Mrs. KENNELLY. Thank you. One last question, Mr. Chairman.

I know people from the West are very aware of water conservation, and we hear a great deal about it, particularly on the floor of the House of Representatives. However, some of us from smaller States, Eastern States, have our water conservation policies and I

would like to get on the record, Mr. Boucher, what in fact water conservation can do in a Northeastern State such as Connecticut.

Mr. BOUCHER. In Connecticut and in some parts of the State, it can make the difference between adequacy of supply and inadequacy of supply. Above and beyond that, water conservation is inherently sound public policy. And beyond that, we are discovering in Connecticut that water conservation can be one of the most effective means of energy conservation. In hospitals and other such end users—heavy users—of heated water, and also industrial users of processed water, they can enjoy significant electricity or gas energy reductions as a result of wise conservation of water.

As I'm certain you are quite aware, legislation enacted in the general assembly last year in Connecticut initiated a wide-ranging array of water conservation initiatives, including the provision of water saving devices, the initiation of standards for plumbing and other water facilities. The success of those programs, I think, would be significantly and adversely impacted if, in the middle of all our efforts, end users are going to be subjected to the possibility of having to pay taxes on something that heretofore, certainly, there has been no suggestion that that was going to be a factor in any of the conservation efforts.

Mrs. KENNELLY. Thank you, Mr. Boucher, and I thank the panel for sharing their expertise with us.

Mr. BLACKWELDER. May I supplement?

Mrs. KENNELLY. Certainly, Mr. Blackwelder.

Mr. BLACKWELDER. I fully concur with those remarks, and in 1982, I authored a report, "A Survey of Water Conservation Programs in the 50 States," and prepared "A Model Water Conservation Program for the Nation," and it was our experience then, and continues to be, that there are tremendous potential water savings in every sector, the industrial, commercial, residential, and agricultural, and these produce huge benefits. Residential users, for example, can save anywhere from 20 to 70 percent of their water, which is often tied into their sewer bill, and a good water conservation program in the home, without any change in personal habits, might result in over $100 a year savings to an average family.

Mrs. KENNELLY. Thank you, Mr. Blackwelder.

Thank you, Mr. Chairman.

Mr. GIBBONS. Just one little homely suggestion. If you want to make people really conscious of water conservation, there ought to be an education program in which, at a young age, but old enough to remember, children had to walk a mile and carry the water by hand that they used. They don't realize how precious it is, and how to conserve it.

Mr. BLACKWELDER. Yes; we found in the survey that I did that California was the leader in the Nation in water conservation and education in the public schools, with a "Captain Hydro" publication, quite dramatic and attention-getting. But many States had no program whatsoever.

Mr. GIBBONS. Allow them to go to a camp in which they have to carry their water that they use by hand, about a mile, and they'll learn how to conserve water real, real fast, I'll tell you.

Well, thank you for your very interesting testimony, and particularly that emphasis upon the Everglades, Mr. Lee. You know, the

Everglades is not in my district, and I'm not as acquainted as I should be, but I have, for a long time, in talking to the sugar industry, told them that I don't see why they can't live in the market system like everybody else. If you want to introduce a poisonous idea to them, just talk to them about that. [Laughter.]

Thank you very much for coming, and for helping us with this.

All right, let's see. The Fuel Users for Equitable Levies—that's an interesting—FUEL—Aubrey King; American Trucking Association, Thomas J. Donohue; National Taxpayers Union, David Keating; and the American Road & Transportation Builders Association, Peter Ruane.

Let's see, Mr. King, you are listed as first, and we will go down—King, Donohue, Keating, and Ruane.

STATEMENT OF AUBREY C. KING, EXECUTIVE DIRECTOR, TRAVEL AND TOURISM GOVERNMENT AFFAIRS COUNCIL, ON BEHALF OF FUEL USERS FOR EQUITABLE LEVIES (FUEL)

Mr. KING. Thank you very much, sir. I do appreciate this opportunity to appear before the committee. I am Aubrey King, executive director of the Travel and Tourism Government Affairs Council. I am here today speaking for a national coalition with the acronym FUEL, whose members represent millions of motorists and highway users, as well as travel and tourism, agricultural, State government, and other industry groups, who are opposed to new Federal motor fuel taxes for nonhighway purposes. With your consent, I would like to summarize the points which we discuss in greater detail in the written statement which we have provided for the record.

Although the focus of this hearing is on the use of fuel taxes to achieve energy conservation and air pollution goals, it is apparent to anyone reading the newspapers in the past few days that some would like to see such a fuel tax increase used for other purposes, as well, including the reduction of the Federal deficit, and overall infrastructure needs, both transportation and nontransportation. I would add, by the way, that I think the chairman of this committee is to be commended for his courageous efforts to place these issues out on the public agenda.

With this in mind, I would first like to make two points with regard to fuel taxes, energy conservation, and air pollution, and then I will quickly review a few additional points applicable to these, as well as other, possible justifications for an increase in the fuel tax.

First, with regard to the use of fuel taxes to achieve energy conservation and air pollution goals, the initial point we would like to make here is simply that anything resembling a reasonable fuel tax increase, and by reasonable, I mean both politically and economically, would only have a negligible effect on gasoline consumption in this country. There are a number of studies by renowned economists which address this question as to what the impact on fuel consumption would be of an increase in the gas tax. The figures are not always identical, but certainly they indicate a clear conclusion, which is illustrated, for example, in a study by Data Resources, Inc., which projects that a 50-cent-a-gallon increase in

the gas tax would only cut consumption by less than 10 percent, while at the same time increasing the Consumer Price Index by 2.5 percent, and decreasing the GNP by 2 percent.

In other words, we would submit that any reductions in fuel use that are associated with higher taxes would result far more from a weakened economy—the weakened economy that such tax increases would cause, rather than from a simple determination by drivers to switch to cheaper modes of travel.

The second point we would like to make with regard to the use of fuel taxes for energy conservation and environmental purposes, is that there is very major legislation now moving through Congress, addressing the Clean Air Act. We would submit to you that because this legislation includes such provisions as use of HOV lanes, employer carpool programs, mass transit improvements, restrictions on parking lot construction, car-less days, and a number of other options, including alternative fuels, we should certainly await final congressional action and assess its effect on gasoline consumption before reaching any conclusions about the use of a gas tax to achieve similar goals.

Turning my attention to some other objections to the use of a fuel tax increase for nontransportation purposes, we think that whether a gas tax increase is intended to achieve energy conservation and air pollution objectives, or to reduce the Federal deficit, or to pay for nontransportation infrastructure needs, the unintended results would be severe economic hardship and loss for millions of Americans.

I am directly representing an industry, travel and tourism, that is responsible for approximately $350 billion in receipts in this country each year; about 6.7 percent of the GNP. We employ 5,800,000 Americans directly and another 2,500,000 indirectly, making it our second largest employer, and it is one of the top three employers in at least 40 States in this country.

Over the past decade, travel and tourism has produced new jobs twice as fast as the rest of the economy; it is also our largest export, generating last year over $43 billion in foreign exchange earnings for this country, and it is an industry that would be severely, acutely hit by a sharp fuel tax increase. Because so much of it depends on discretionary vacation travel, if a 10-cent-per-gallon hike in the gasoline tax would be enacted, it would reduce miles driven by 3 percent. If this would fall entirely on vacation travel, we could lose anywhere from 38,000 to 100,000 jobs, and see revenue for our industry fall by $2 to $5 billion, with accompanying loss, I might add, in Federal tax revenues. And these lost jobs would not just come from activities directly connected with automobile use. We are talking about hotels, we are talking about restaurants, we are talking about tour operators, travel agents, even airline use. There would be simply a sharp, negative impact on this large, dynamic industry.

I would further like to make the point, and I'm certain that this and other points are also going to be addressed by other witnesses, simply to make the point that it is an exceptionally regressive approach—regressive not only by income class, falling disproportionately on those of moderate and lower income groupings, but also geographically, because such a tax would also fall disproportionate-

ly on those parts of the country, notably the Sun Belt, and the Western States, where the distances are great, and the reliance on automobile and other vehicle use is very, very significant, indeed.

And last, I would suggest to you that at a time, by everyone's acknowledgement, that a national transportation policy is badly needed in this country, to address the deteriorating transportation infrastructure, a message certainly conveyed just last week in the release of the national transportation policy, by Secretary Skinner, that it would be particularly ill-timed to consider an increase in that gasoline tax which has, for decades now, been the principal source of funding for transportation needs in this country, at the Federal, State, and local levels. It would certainly be poor timing to preempt and undermine this particular source of funding.

[The statement of Mr. King follows:]

STATEMENT OF AUBREY C. KING, EXECUTIVE DIRECTOR, TRAVEL AND TOURISM GOVERNMENT AFFAIRS COUNCIL ON BEHALF OF FUEL USERS FOR EQUITABLE LEVIES (FUEL)

Mr. Chairman, Members of the Committee, I appreciate this opportunity to appear before you today. I am Aubrey C. King, Executive Director of the Travel and Tourism Government Affairs Council. I am speaking for a national coalition called Fuel Users for Equitable Levies, or "FUEL," whose members represent millions of motorists and highway users, as well as travel and tourism, agricultural, state government, and industry groups opposed to new federal motor fuel taxes for nonhighway purposes.

FUEL believes that reliance on a higher fuel tax to achieve environmental objectives will not only be unsuccessful if implemented, but would inflict severe economic hardship and loss on millions of Americans. Our concern is shared by the public, by the President, by more than 240 House members who have cosponsored House Resolution 41, and by more than a thousand organizations which have already gone on record in opposition to a new fuel tax for fiscal or other nontransportation purposes.

It should also be noted that the Administration reiterated its rejection of additional Federal fuel taxes just last week when it released its National Transportation Policy. Transportation Secretary Skinner declared that although some public officials may favor increasing fuel taxes, the Administration remains firmly opposed. He added that the opportunity for the states to rely on fuel tax increases to fund critical transportation programs might be lost if the Federal government pre-empts this source of revenue.

<u>The Impact of Fuel Taxes on Conservation</u>

It must first be realized that fuel tax increases would have at most a negligible effect on gasoline consumption in this country. Only relatively small declines in fuel consumption are projected as a result of significant fuel tax increases in studies conducted by Wharton Econometrics Forecasting Associates (WEFA) for the American Automobile Association, and by Data Resources Incorporated (DRI).

The WEFA study projects a reduction in daily gasoline consumption of only 146,000 barrels (compared to the 7 million barrels of gasoline used daily) as a result of a 10-cent gasoline tax. A 30-cent increase would result in a 392,000 barrel per day reduction, or about a 5 percent reduction in consumption. Yet

these savings would come at a cost of major shifts in the economy, including loss of more than 220,000 jobs and the loss of $30 billion in GNP in the first year alone.

The DRI study considers the phase-in of a 50-cent per gallon tax increase and projects a 9.1 percent reduction in gasoline consumption by 1991. Coupled with this lower fuel use would be a 2.5 percent increase in the Consumer Price Index and as much as a 2.0 percent reduction in GNP.

It appears that any reductions in fuel use associated with higher taxes would result far more from the weakened economy such tax increases would cause rather than from a simple determination by drivers to switch to cheaper modes of travel. Some increased conservation might be achieved through higher taxes, but only if we are willing to pay extremely high costs in terms of lost economic growth and inflation.

In recent testimony at a Department of Energy hearing on energy security, the American Petroleum Institute suggested that energy prices would have to increase drastically -- three to four times the 1987 prices -- to hold domestic energy consumption to 1987 levels through the year 2000, while maintaining modest economic growth. Reducing consumption by 10 percent in the same period would require energy costs to rise to five to six times their 1987 level.

The Department of Energy itself has already documented many of these impacts in Appendix E of its March 1987 Energy Security Report to the President. The report concluded: "The gasoline tax is not a cost effective way to increase energy security...the costs produced by a gasoline tax are an order of magnitude higher than the benefits."

Fuel Demand and the Clean Air Act

There is a possibility of major Congressional legislation this year that may improve fuel conservation efforts. Clean air legislation currently under consideration in Congress is intended to have significant effects on the commuting lifestyles of tens of millions of urban residents . The legislation is also intended to increase significantly the use of alternative fuels nationwide which, ultimately, could result in further reductions in motor fuel demand.

The House is reviewing clean air legislation that, for example, would extend the Act's current air quality attainment deadline by five to fifteen years in relation to the severity of a state's pollution problem. In the meantime, the states would be offered some discretion in choosing strategies to meet the new deadline. These could include High Occupancy Vehicle lanes, employer carpool programs, carpool incentives, mass transit

improvements, fringe parking at transit stops and realistic land use planning to reduce vehicle miles traveled. If these options included incentives and transportation alternatives, there could be a sizable effect on the use of vehicles and a reduction in demand for fuel.

Such an incentive, it should be noted, was recently introduced by Rep. Robert Matsui (D-CA) to shift commuters toward the use of ride-sharing and transit. The Matsui bill, H.R. 2265, is intended to provide more equitable tax treatment of employer-sponsored transit and vanpool benefits than is provide under the existing Code.

The House is also considering as part of the clean air legislation President Bush's ambitious alternative fuels plan. This plan could result in the purchase of more than 1 million vehicles each year later this decade powered by fuels other than gasoline. Efforts are being made now to ensure that a variety of fuels, including compressed natural gas, ethanol and methanol, will be given equal chance of replacing gasoline in many urban areas.

We believe that these clean air initiatives, if supported by the public, would have the potential of enhancing other fuel conservation efforts, and should be reviewed carefully by all members of Congress concerned about the environment.

The remainder of these remarks will be directed to the severely negative economic impact of a sharp increase in the fuel tax. After considering the impact on the industry I know best, travel and tourism, we can examine some of the broader effects on our economy and our society. We believe these points are compelling and hope the Committee finds them helpful.

Impact on Travel and Tourism

Let me first briefly address how such taxes on fuel would affect the large and diverse industry that I directly represent. The Travel and Tourism Government Affairs Council, which I serve as executive director, is a permanent coalition of 33 national organizations representing every segment of the travel and tourism industry, including accommodations, food service, air and surface transportation, recreation facilities, travel agents, tour operators, attractions, and state and local travel and tourism officials.

A few statistics will suggest the dimensions of the United States travel and tourism industry. Generating $350 billion in gross receipts, it is our country's third largest retail industry, and comprises 6.7 percent of the GNP. Approximately 5.8 million Americans are directly employed in travel and tourism, making it our second largest employer (with another 2.5 million employed

indirectly in providing goods and services to the industry). Travel and tourism is one of the top three employers in 80 percent of the states. It should also be noted that over the past decade jobs in travel and tourism have more than doubled while total employment for all industries has increased by less than 50 percent, and travel and tourism is one of the principal sources of jobs for women, minorities and the disadvantaged. Travel and tourism is also America's biggest export, as 38.3 million international visitors to our country last year produced more than $43 billion in foreign exchange earnings. This industry produced approximately $23 billion in Federal tax revenue last year and $19.8 billion in state and local tax income.

The slogan of National Tourism Week aptly suggests the enormous contribution of this industry to our national economy: "Tourism Works for America." It is imperative that in a nation whose economy relies so much on a vibrant travel and tourism industry, the most careful consideration be given the grave consequences that would almost certainly be inflicted upon this industry by a precipitous increase in the fuel tax, however well intended.

Approximately 80 percent of vacation travel in the U.S. is conducted by private vehicles which would have to pay such a tax.. Auto travel, including car, bus, truck, recreation vehicle and motorcycle, represents the primary mode of transportation for all travel away from home in the U.S. According to The 1988-89 Economic Review of Travel in America, published by the U.S. Travel Data Center, "(P)ersonal motor vehicle travel is particularly sensitive to...rapid price inflation." Wide fluctuations in gasoline prices, whether caused by turmoil in the Persian Gulf or by federal tax policy, would have a severe impact on vehicle travel and tourism in general.

In the WEFA study of the effects of gasoline taxes, it found that "...every one percent increase in real gasoline price drives down simulated car travel by one-half of a percent. In addition, changes in real income also affect simulated miles traveled. Together, these price and income effects reduced simulated 1988 miles traveled per vehicle by just under 3 percent with a 10-cent tax increase. The fall was closer to 8 percent with a 30-cent tax rise."

With just a 3 percent reduction in miles traveled (10 cent per gallon tax increase), if the entire reduction comes from vacation travel, our industry would lose about 38,000 jobs as travel and tourism expenditures would fall by about $2 billion. Federal taxes would decline $124 million and state and local taxes would be reduced $ 110 million.

Let me emphasize that the jobs dependent on tourism are not just those directly tied to individual auto use, but include those provided by accommodations, restaurants, attractions, recreation facilities, tour operators and travel agents, as well as those of related builders, contractors and suppliers.

Furthermore, many states, regions and localities are looking to tourism-related projects and programs as essential, if not indispensable, elements in their economic development efforts. Thus, a rapid, sharp increase in the fuel tax would be a crippling blow to such efforts.

Other Negative Economic Impacts

In response to recurring proposals to increase the tax on gasoline, particularly as a means of reducing the Federal budget deficit, there have been several recent independent studies of the consequences of such an increase. For instance, the WEFA study concluded that the near-term costs of such a gasoline tax are exceedingly negative. Thousands of people would be put out of work, consumer prices in general would rise, and the poor would be hurt disproportionately. People who live in the South and West--many of whom have already suffered grievously from the recent downturn in oil prices--on average must travel greater distances by personal vehicles and therefore pay a higher percentage of their income for this tax.

Specifically, the study found that adding 10 cents to the cost of a gallon of gasoline would produce the following negative economic impacts:

-- The Gross National Product would be reduced by nearly $10 billion in the first year alone;
-- Automobile production would fall by 1.3 percent;
-- Housing construction would drop by 0.9 percent;
-- 80,000 persons would be out of work in the first year;
-- 180,000 would be out of work in three years;
-- Petroleum refinery output would decline by 1.2 percent;
-- Income tax revenues would decline by nearly $1 billion annually;
-- Personal savings would decline by nearly 3 percent;
-- The Consumer Price Index would rise by 0.3 percent.

Adding 30 cents more to the cost of gasoline--as would one legislative proposal--would virtually triple these consequences. Most important is the study's finding that 225,000 persons would be put out of work the first year and 525,000 would be out of work in three years.

The study found the following secondary impacts worthy of note:

-- Welfare payments by government agencies for unemployment and food stamps would increase;
-- Payments of U.S. industries for wages and salaries would fall, multiplying the impact on national income.

The DRI analysis further found that a new federal tax on motor fuels would cut the deficit by only 27 cents for every dollar of taxed raised, on average, over a five-year period.

The highly negative economic effects of a new federal excise tax on gasoline also were emphasized in the Energy Departments's recent Energy Security report. That report states that a new gasoline tax would be inflationary, discriminate against low income groups, reduce tax revenues in other categories, and increase unemployment. It concluded that gasoline tax "is not a cost effective way to increase energy security," and that the "macroeconomic loss is estimated to (be) over 100 times as high as the estimated energy security benefits."

Income Distortions

A gasoline tax increase for deficit reduction would place an undue burden on lower income families. According to the U.S. Census Bureau, nearly 78 percent of Americans earning less than $10,000 drive to work. Families that earn less than $5,000 annually pay nearly 8 times more of their available income in gasoline taxes than those families earning in excess of $50,000. According to the Congressional Budget Office, the lower income group pays more than 1.6 percent of their income to gasoline excise taxes, while the high income group pays only 0.2 percent of their income.

A recent study by KPMG Peat Marwick for the Coalition Against Regressive Taxation explored this disparity further. It came to the following conclusions:

1) The U.S. tax system has become less progressive over the past ten years;
2) An increase in excise taxes would contibute further to a decrease in progressivity;
3) An increase in excise taxes would be unevenly distributed, especially among lower income groups; and
4) The earned income credit under current law is a poor vehicle for offsetting the effects of higher excise taxes among lower income taxpayers.

This large gap in tax apportionment demonstrates the very substantial burden gasoline taxes have on the poor. An increase in this tax would seriously exacerbate this regressive effect.

Of course, traditional gasoline taxes to fund highway construction are also regressive (and have differing regional impacts), but they are generally raised in small increments and are justifiable on a user fee basis. The more you drive and therefore derive benefit from the nation's road structure, the more you pay. However, this justification collapses completely for a gasoline tax not earmarked for economically beneficial road construction or rehabilitation.

Moreover , a significant increase in federal gasoline taxes would counteract the tax benefits derived by the working poor from the Tax Reform act of 1986. Calculations by Peat Marwick indicate that the 1986 Tax Reform Act provided $414 million in tax reduction for income groups earning less than $10,000 annually. However, a 1-cent gasoline tax increase would reduce this benefit by $99 million, and a 4-cent increase would largely negate this benefit, while a 12-cent gasoline tax would triple the harm to this low-income group.

We doubt that many members of Congress want to hit the working poor with a huge tax burden only several years after enacting the tax reform law that was touted as removing them entirely from the federal tax rolls.

The American People Strongly Oppose a Gasoline Tax Increase

The American people oppose a federal gas tax increase for deficit reduction, as indicated by a recent Washington Post-ABC News survey. The nationwide telephone poll of 1,506 people found that 73 percent of those polled disapprove of raising taxes on gasoline to balance the federal budget (27 percent approved). This was confirmed by a subsequent Newsweek poll which found that 77 percent of Americans oppose a 10-cent gasoline tax. Yet another Media General-Associated Press survey published in late 1988 found that 76 percent of adult americans opposed higher taxes on gasoline to raise revenue to reduce the federal deficit.

It is especially heartening to find that the public's opposition is shared by President George Bush. President Bush has stated it firmly, "Let me say it one more time: As President, I will oppose any attempt to raise taxes to balance the budget. That means gas taxes, too... A gas tax increase to balance the budget would particularly hurt lower wage earners, families with both spouses working, and farmers and residents of Western states who have to drive long distances."

Geographic Distortions

Consumers in certain parts of the nation would bear a disproportionate brunt of any increase in gasoline tax payments. For example, in the eastern United States, consumers use much

less gasoline than must their counterparts in western and many southern states. A comparison of the average annual fuel consumption per licensed driver in the District of Columbia (476 gallons), New York (562 gallons), and Connecticut (590 gallons) with that of Wyoming (914 gallons), Georgia (817 gallons), or North Dakota (848 gallons), provides an indication of the vast differences in distances traveled and gasoline purchased from region to region.

Why should a resident of Wyoming pay more than twice as much as a resident of the District of Columbia, whether to achieve environmental objectives or cut the federal deficit, solely because the person from Wyoming must drive longer distances? In both cases, the money raised would be diverted to non-highway purposes. So drivers in all of these areas would gain no direct benefit from the new tax. The table attached to this testimony shows how the various tax proposals would affect motorists in each state.

Jeopardizing Highways

The imposition of a federal gasoline tax for non-highway purposes also threatens the future ability of states to raise user fuel taxes for road construction and repair.

All but one cent of the current 9-cent federal excise tax on gasoline is dedicated to building and improving the nation's federal/state highway system. This system is the envy of the world, as is the mechanism that has been used to finance it.

To tax gasoline for nonhighway purposes would seriously erode the public's support for the successful pay-as-you-go federal/state highway program. It would severely hamper the ability of states to raise their own motor fuel taxes to match federal dollars, as well as jeopardize public support for strictly local projects.

To meet burgeoning highway needs, states have raised fuel taxes this year, and more are considering doing so. But state legislators would be hard pressed to justify further increases in their transportation-related taxes if their federal counterparts usurp this role. If that happens, the federal government could quickly find itself obligated to bear the cost of all future transportation projects because states would be unable or unwilling to do so .

Unfortunately, a 30-cent tax hike may be a real possibility over the next three-year budget cycle if a gasoline tax increase is enacted. The Congressional Budget Office estimates that more than 70 billion dollars in deficit reduction cuts or new taxes will be needed to meet the 1991 Gramm-Rudman-Hollings requirements Thus a 10-cent gas increase could become only a first installment

on future increases, if the precedent is established to use gasoline taxes to fund the deficit. The draconian levels to which the fuel tax would have to rise to achieve environmental objectives would undoubtedly be much greater.

For these reasons, FUEL urges the Committee to reject all proposals that seek to raise fuel taxes for nonhighway purposes. Thank you again for listening to our concerns

FUEL USE PER REGISTERED DRIVER BY STATE - 1988

STATE	GASOLINE (X1000)	POP (X1000)	REGIST. DRIVERS	PER REG DRIVER GAS USE	VMT MILLIONS	PER REG DRIVER VMT	AVG MPG	TAX PER DRIVER @ $.09/GAL FED TAX	TAX PER DRIVER @ $.15/GAL FED TAX	TAX PER DRIVER @ $.30/GAL FED TAX	TAX PER DRIVER @ $.50/GAL FED TAX
ALABAMA	2072236	4119	2097596	987.9	39684	18919	19.2	$88.91	$148.19	$296.37	$493.95
ALASKA	246038	554	300000	820.1	3841	12803	15.6	$73.81	$123.02	$246.04	$410.06
ARIZONA	1708609	3542	2351903	726.5	34247	14561	20.0	$65.38	$108.97	$217.94	$363.24
ARKANSAS	1272178	2400	1676863	758.7	19219	11461	15.1	$68.28	$113.80	$227.60	$379.33
CALIFORNIA	12900366	28074	18925973	681.6	241575	12764	18.7	$61.35	$102.24	$204.49	$340.81
COLORADO	1561689	3350	2226285	701.5	27665	12427	17.7	$63.13	$105.22	$210.44	$350.74
CONNECTICUT	1397428	3235	2369966	589.6	26062	10997	18.6	$53.07	$88.45	$176.89	$294.82
DELAWARE	347242	649	468844	740.6	6404	13659	18.4	$66.66	$111.10	$222.19	$370.32
D.C.	186686	617	391775	476.5	3405	8691	18.2	$42.89	$71.48	$142.95	$238.26
FLORIDA	6084185	12249	8789843	692.2	105319	11982	17.3	$62.30	$103.83	$207.66	$346.09
GEORGIA	3539768	6384	4335537	816.5	62262	14361	17.6	$73.48	$122.47	$244.94	$408.23
HAWAII	376090	1101	634880	592.4	7419	11686	19.7	$53.31	$88.86	$177.71	$296.19
IDAHO	478952	1009	707561	676.9	8127	11486	17.0	$60.92	$101.54	$203.07	$338.45
ILLINOIS	4971834	11584	7262508	684.6	78483	10807	15.8	$61.61	$102.69	$205.38	$342.29
INDIANA	2760066	5531	3773008	731.5	51124	13550	18.5	$65.84	$109.73	$219.46	$365.76
IOWA	1395039	2803	1886950	739.3	21907	11610	15.7	$66.54	$110.90	$221.79	$369.65
KANSAS	1326752	2477	1705869	777.8	21161	12405	15.9	$70.00	$116.66	$233.33	$388.88
KENTUCKY	1889808	3738	2367574	798.2	31614	13353	16.7	$71.84	$119.73	$239.46	$399.10
LOUISIANA	2064779	4507	2597965	794.8	34682	13350	16.8	$71.53	$119.22	$238.43	$397.38
MAINE	658179	1193	866728	759.4	11401	13154	17.3	$68.34	$113.91	$227.82	$379.69
MARYLAND	2099811	4599	3136819	669.4	37498	11954	17.9	$60.25	$100.41	$200.82	$334.70
MASSACHUSSETTS	2542571	5849	4249814	598.3	43334	10197	17.0	$53.85	$89.74	$179.48	$299.14
MICHIGAN	4389647	9231	6388518	687.1	77899	12194	17.7	$61.84	$103.07	$206.13	$343.56
MINNESOTA	2092710	4271	2478925	844.2	36447	14703	17.4	$75.98	$126.63	$253.26	$422.10
MISSISSIPPI	1264910	2661	1813559	697.5	22043	12155	17.4	$62.77	$104.62	$209.24	$348.74
MISSOURI	2780023	5132	3511676	791.7	45570	12977	16.4	$71.25	$118.75	$237.50	$395.83
MONTANA	448745	811	534457	839.6	8138	15227	18.1	$75.57	$125.94	$251.89	$419.81
NEBRASKA	801447	1593	1088104	736.8	13407	12321	16.7	$66.29	$110.48	$220.97	$368.28
NEVADA	605424	1021	749037	808.3	8989	12001	14.8	$72.74	$121.24	$242.48	$404.13
NEW HAMPSHIRE	527610	1088	798336	660.9	9507	11909	18.0	$59.48	$99.13	$198.27	$330.44
NEW JERSEY	3491849	7756	5451556	640.5	58671	10762	16.8	$57.65	$96.08	$192.16	$320.26
NEW MEXICO	828818	1557	1047261	791.4	15283	14593	18.4	$71.23	$118.71	$237.42	$395.71
NEW YORK	5698886	17755	10143464	561.8	103692	10223	18.2	$50.56	$84.27	$168.55	$280.91
N. CAROLINA	3387273	6512	4421934	766.0	57943	13104	17.1	$68.94	$114.90	$229.80	$383.01
N. DAKOTA	365846	669	431366	848.1	5765	13365	15.8	$76.33	$127.22	$254.43	$424.06
OHIO	5013407	10779	7378737	679.4	81990	11112	16.4	$61.15	$101.92	$203.83	$339.72
OKLAHOMA	1712295	3288	2219296	771.5	32388	14594	18.9	$69.44	$115.73	$231.46	$385.77
OREGON	1364831	2733	2170124	628.9	25204	11614	18.5	$56.60	$94.34	$188.68	$314.46
PENNSYLVANIA	4766668	11860	7731880	616.5	81238	10507	17.0	$55.48	$92.47	$184.95	$308.25
RHODE ISLAND	401304	989	666248	602.3	5853	8785	14.6	$54.21	$90.35	$180.70	$301.17
S. CAROLINA	1595246	3464	2305533	691.9	31759	13775	19.9	$62.27	$103.79	$207.58	$345.96
S. DAKOTA	396289	707	482575	821.2	6634	13747	16.7	$73.91	$123.18	$246.36	$410.60
TENNESSEE	2541699	4891	3198978	794.5	44193	13815	17.4	$71.51	$119.18	$238.36	$397.27
TEXAS	8890051	17192	11080702	802.3	156458	14120	17.6	$72.21	$120.35	$240.69	$401.15
UTAH	779897	1722	977636	797.7	13263	13566	17.0	$71.80	$119.66	$239.32	$398.87
VERMONT	291291	552	406194	717.1	5553	13671	19.1	$64.54	$107.57	$215.14	$358.56
VIRGINIA	3022281	5977	4129510	731.9	57453	13913	19.0	$65.87	$109.78	$219.56	$365.94
WASHINGTON	2158790	4564	3198023	675.0	41813	13075	19.4	$60.75	$101.26	$202.51	$337.52
WISCONSIN	2117182	4797	3268207	647.8	42458	12991	20.1	$58.30	$97.17	$194.34	$323.91
WYOMING	318367	505	348946	913.8	5658	16215	17.7	$82.24	$137.07	$274.14	$456.90
W. VIRGINA	840609	1886	1308212	642.6	13884	10613	16.5	$57.83	$96.38	$192.77	$321.28
TOTAL	116774201	245527	162853255		2025586						
AVERAGE				725.9		12702.3	17.5	$65.33	$108.89	$217.78	$362.97

SOURCES: BUREAU OF THE CENSUS, P.24, PROJECTION, 1989 STATISTICAL ABSTRACT
MICHIGAN STATISTICS - 1988 TABLES VM-2 PP.14 ME-33GA

TRAVEL AND TOURISM
GOVERNMENT AFFAIRS COUNCIL
MEMBERSHIP

Air Transport Association
American Automobile Association
American Bus Association
American Car Rental Association
American Council of Highway Advertisers
American Hotel & Motel Association
American Recreation Coalition
American Sightseeing International
American Ski Federation
American Society of Travel Agents, Inc.
Association of Retail Travel Agents
Conference of National Park Concessioners
Gray Line Sightseeing Association
Highway Users Federation
Hotel Sales and Marketing Association International
International Association of Amusement Parks and Attractions
International Association of Convention and Visitor Bureaus
National Air Carrier Association
National Business Travel Association
National Campground Owners Association
National Caves Association
National Council of Area & Regional Travel Organizations
National Council of State Travel Directors
National Council of Travel Attractions
National Restaurant Association
National Ski Areas Association
National Tour Association
Recreation Vehicle Industry Association
Society of American Travel Writers
Society of Travel Agents in Government
Travel Industry Association of America, Inc.
United States Tour Operators Association
US Travel Data Center

MEMBERS AT LARGE

Richard T. Ashman, Holiday Inns, Inc.
Norman G. Beatty, The Colonial Williamsburg Foundation
William J. Burhop, American Airlines
Dale R. Finley, Convention & Visitors Bureau of Greater Cleveland
Darryl Hartley-Leonard, Hyatt Hotels Corporation
Charles Gillett, New York Convention & Visitors Bureau
Robert E. Juliano, Hotel Employees & Restaurant Employees International Union
James Montgomery, Pan American World Airways, Inc.
Richard H. Moose, American Express Company
William S. Norman, Amtrak
Martin R. Shugrue, Jr., Martin R. Shugrue Associates
Preston Robert Tisch, Loews Corporation

Mr. GIBBONS. Mr. King, you haven't convinced the committee that is here present that there is anything wrong—that the tax is not already too low. I just came out of a beautiful place in Florida this last weekend, and it happens out here all around this Capitol all day long, those big diesel buses—they leave their engines running, there is nobody on them, there is nobody in them, they aren't going anywhere, and they run for hours sitting there. I don't know what they are doing. The fuel must be something that is insignificant in the operation of that bus. Why can't you get them to—you know, it is ridiculous for you to sit there and argue that fuel is a big problem when they run those buses for hours with nobody in them, and they are not going anywhere.

Mr. KING. I cannot speak for the——

Mr. GIBBONS. Just go outside here and listen to them. They pound your ears, they pollute the atmosphere, and you walk up to the driver and say, well, why don't you turn the thing off, and they kind of look at you like they are saying, "Go to hell, it's my business, and I'm running it the way I want to"; but that's what I remember when I think about the fuel tax.

Mr. KING. I can't speak either for the bus industry, or for the Teamsters, certainly, and I——

Mr. GIBBONS. Well, it must not be significant. The fuel must not be significant to them—you are talking about tourism, aren't you? These were tourist buses. These buses that I saw down in front of that Florida hotel when I walked out of there on Monday morning were from Michigan. They, obviously, didn't give a hoot about the cost of fuel. There wasn't anybody near the buses; it wasn't check-out time; they weren't going anywhere, and they were just running the engines wide open, polluting the whole environment with noise, as well as the fuel, and they didn't give a damn about the price of fuel. It was insignificant to them.

Mr. KING. If I might, let me respond with another personal example. I can recall a phone call made to me last year by my mother, who lives in a small town in West Virginia, a town that is really almost totally nonserved by any public transportation. She had one major gripe to make to me over the phone, knowing that I work on these matters, and her gripe was, "My goodness, what's it going to mean to us if they increase the gas tax?" She and my father are both retired, and live approximately 400 to 500 miles away from their grandchildren. When they want to engage in recreational pursuits, 9 times out of 10, it is going to involve going out for a drive. I really don't think they are unique in this regard, and indeed, the data would indicate that 80 percent of the vacation travel in this country is done by automobile.

Her concern was that for their fixed income, a sharp increase in the gas tax would be a great deterrent to their capability to engage in exactly that kind of pursuit, and again, I really don't think that that is an exceptional point of view; many would perceive this to be a deterrent to this sort of discretionary driving, if the cost of that transportation increases, and a significant portion of that cost, obviously, does come from the gas tax.

Mr. GIBBONS. Well, I just thought I'd tell you about one of my pet peeves. If you can get these buses to turn off their engines when they are parked around the Capitol, I would appreciate it, and

maybe there ought to be some kind of warning by the owners. You know, that fuel is awfully expensive, and the tax is terrible, and please turn off the engines when they are not in use, would help.

Mr. KING. We have some friends in the bus industry, and I will certainly convey that sentiment.

Mr. GIBBONS. Please, I would appreciate it.

Well, Mr. Donohue.

STATEMENT OF THOMAS J. DONOHUE, PRESIDENT AND CHIEF EXECUTIVE OFFICER, AMERICAN TRUCKING ASSOCIATIONS, INC.

Mr. DONOHUE. Thank you, Mr. Chairman. I'm sure when I finish my very short statement, you might have a few peeves that we could also——

Mr. GIBBONS. No, I love trucks. They just——[Laughter.]

Mr. DONOHUE. As you know, I am president and chief executive officer of the American Trucking Associations. Our organization represents 200,000 companies that do 250 billion dollars' worth of business, and employ 7,500,000 people. A fuel tax to promote clean air, therefore, is very interesting to us, as well as one that might be placed to pay down the Federal deficit.

The tax would do little to clean the air, but it would hurt low- and moderate-income families, our competitiveness as a nation in world trade, the highway-dependent businesses, many of which are sitting right here today, and the Federal and State highway trust funds, which Mr. Skinner recently spoke about in his statement on transportation policies.

Now, in particular, Mr. Chairman, trucks are not the mobile source problem, and a tax on diesel fuel is not the answer. In fact, heavy-duty diesel trucks contribute just 1 percent of the hydrocarbons, 1 percent of the carbon monoxide, and 10 percent of the nitrous oxides. When you look at that, which is an EPA estimate, you will find that truck emissions are not only a small part of the pollution, but have been dropping significantly in recent years.

In addition, sir, truckowners will shortly be paying another tax to clean up the air. We have agreed to meet the 1994 clean air standards, and that will cost us between 3 and 5 cents a gallon to clean up the diesel, and something in the area of another $1,000 to each truck we buy, for the adjustments in the engines.

Now, fuel taxes——

Mr. GIBBONS. Is that going to take care of this black, belching smoke that I have to drive in, and walk in, and smell?

Mr. DONOHUE. Well, Mr. Chairman, first of all, there are today about 5 million trucks on the road right now.

Mr. GIBBONS. I'm aware of that. I thought there were more than that.

Mr. DONOHUE. Well, no, but 5 million can move about that much commerce, and there are some belching, black smoke, but there are very, very few now, and they——

Mr. GIBBONS. Oh, where—where have you been living, that they are few—you don't live in Washington, do you?

Mr. DONOHUE. No; as a matter of fact, let me just take a statistic that would be helpful.

Mr. GIBBONS. Well, I don't care about statistics; I come to work in this stuff every morning, and go home—last night, it was so bad going home that you could hardly see.

Mr. DONOHUE. Well, I'm not sure that's the trucks, sir.

Mr. GIBBONS. Well, it was diesel fuel. I don't know what it was, maybe we had a fire and I didn't see it. [Laughter.]

Mr. DONOHUE. I think that debate might—let me just say that fuel taxes are unfair——

Mr. GIBBONS. Mr. King says, you know, his parents can't drive, but the tax on gasoline is very inelastic, so I'm just kind of judging you all by my own common experience, and what you tell me. I'm asking you as if this great sacrifice that you are all going to make in trucking—is it going to clean up the belching smoke that all of us have to breathe?

Mr. DONOHUE. Mr. Chairman, if you went and brought the EPA up here, they will tell you that trucks in this economy have significantly reduced their contribution to the pollution and clean air numbers, and as I mentioned in my first statement, we are only 1 percent of one of the mobile sources; 1 percent of the other; and 10 percent of the third. We are a very small percent of the pollution.

Mr. GIBBONS. You are the most obnoxious one, and the ones people complain about.

Mr. DONOHUE. No, sir. That's not true; that may be the one they visibly see, but it is not true.

Mr. GIBBONS. Well, that's what I'm talking about. They complain about it, because they see it.

Mr. DONOHUE. No; they complain about what burns their eyes and what hurts their lungs, and that is not the trucks. As a matter of fact, we are the only people that have stepped forward and said, in addition to the fact that we have significantly reduced, as you will see in my testimony, the pollution that we do contribute, we are voluntarily going to meet the 1994 standards. We are going to spend 3 to 5 cents a gallon, and remember, this is an industry that drove more than 250 billion miles last year, carrying the goods of this society, and that's going to cost us a small fortune.

The point I would then make is that——

Mr. GIBBONS. They usually pass me like I was standing still, but that's all right. Go ahead.

Mr. DONOHUE. I believe there are some doing that, and I hope you would encourage your State to stop those people and give them a ticket, because we were the people behind the single national drivers license, which says that if they get those tickets, they no longer can hide behind multiple licenses; and enforcement is the key to doing that.

Mr. GIBBONS. Good, we are making progress. I am getting a mobile telephone so I can call the police.

Mr. DONOHUE. I have one, and I do it.

Mr. GIBBONS. Good, fine. We are making progress.

Mr. DONOHUE. Good.

Fuel taxes, I would go on to say, are unfair when used for deficit reduction, or to clean the air. You heard the comments, and I won't belabor them, about how they are regressive, they are unfair to those in the lower income part of our society; they are clearly unfair in a geographic sense. You know, the most pollution is in

the large cities, and the biggest payment would have to be made by the people that drive long distances in the rural areas.

Fuel taxes, may I say further, for nonhighway purposes, could do immense harm to Federal and State highway funding; 33 States raised their highway taxes last year, and more are coming, and if we break the covenant, which is there to build the future highways—and we are ready to pay for those—and use those for other purposes, we are very clearly going to put ourselves in a position where we are not going to be able to do what we need to enhance our highway system.

I would end with just three very quick points. I heard the gentleman up here before talk about transit, and I would point out to the chairman that there is $7 billion sitting in the highway trust fund for transit right now. Spend it. And on top of that, we continue to put in 1 cent for every gallon we buy.

And finally, I cannot let pass the comments by the gentleman from the bicycle industry, or from the Friends of the Earth, that use more incorrect and misleading statistics about the trucking industry, suggesting that 1 of every 3 of those 5 million trucks would have an accident this year; his thoughts on a weight distance tax were clearly sponsored by the railroads, and we will have that debate as we go into the highway bill.

Mr. Chairman, I thank you, and I urge the panel and the committee to think very carefully about the economics of this problem as it relates to moving the goods of this society, and our international competition, and I'm sure we will all get a fair shake. Thank you very much, sir.

[The statement of Mr. Donohue follows:]

Before the

COMMITTEE ON WAYS AND MEANS
U.S. HOUSE OF REPRESENTATIVES

MARCH 14, 1990
WASHINGTON, DC

Statement of the

AMERICAN TRUCKING ASSOCIATIONS, INC.

On

FUEL TAXES FOR CLEAN AIR AND CONSERVATION

Thomas J. Donohue
President and Chief Executive Officer

INTRODUCTION AND SUMMARY

My name is Thomas J. Donohue. I am president and chief executive officer of the American Trucking Associations, the national trade association of the trucking industry. ATA's membership includes more than 4100 carriers and suppliers of all sizes and types. ATA is a federation; membership in our 51 state associations and 10 conferences representing different industry segments, combined with ATA's direct membership, totals over 30,000. All of these companies would be adversely affected by an increase in fuel taxes for environmental or other nonhighway purposes.

A fuel tax to promote clean air or conservation misses the mark. The tax would do little to clean the air, but it would harm low- and moderate-income families, U.S. competitiveness in world trade, highway-dependent businesses and federal and state highway funding. Here's why.

o The tax would be neither helpful nor necessary for clean air. An increase in the cost of fuel will induce little reduction in the use of gasoline and even less reduction of diesel fuel.

o The tax would be harsh on lower-income families, trucking companies, and other highway-related businesses. Gasoline taxes, like other excise taxes, are paid disproportionately by low- and moderate-income families. Diesel fuel is the second largest cost (after labor) for trucking companies. A sharp price increase will drive many of these firms out of business. Travel and auto-dependent business will suffer to the extent families do cut back on driving. U.S. competitiveness will also be harmed because of the higher costs of shipping both inputs and final products.

o The tax would harm federal and state highway funding. A fuel tax for nonhighway purposes will limit states' ability to raise fuel taxes for highway programs, will cut into existing revenues to the extent consumption drops, and will encourage states to switch current fuel taxes away from highways. These changes would occur just as consensus is building on the need to spend more for highways.

A FUEL TAX WILL DO LITTLE TO CLEAN THE AIR

To find out how much difference a fuel tax would make in cleaning the atmosphere, it is necessary to know how much motor vehicles contribute to air pollution and how much a tax increase is likely to cut vehicle emissions. The answers vary according to type of vehicle and fuel. However, neither a diesel fuel tax nor a gasoline tax is a good approach to the air pollution problem.

Trucks are not the problem; a diesel tax is not the answer

Heavy-duty diesel trucks contributed just 1% of hydrocarbons, 1% of carbon monoxide and 10% of nitrogen oxides in 1987, according to the latest Environmental Protection Agency (EPA) estimates.[1/] (Gasoline vehicles, mainly cars and light-duty trucks, were the source of 23%, 53%, and 24% of these pollutants, respectively. Nonvehicular sources accounted for the rest.) Thus, little air quality improvement could be achieved by taxing diesel fuel, even if usage were responsive to a tax.

Furthermore, over the past two decades, trucks have significantly reduced their emissions, and these reductions will continue. According to EPA's MOBILE3 modeling program, emissions from heavy-duty trucks have fallen substantially since the enactment of the Clean Air Act in 1970 to 1990, despite steadily growing miles of travel by trucks. The reductions range from 19% to 32% for diesel emissions and from 34% to 82% for gasoline emissions, depending on pollutant:

Pollutant	% Reduction in Emissions for Trucks Powered by:	
	Diesel	Gasoline
carbon monoxide	19%	72%
hydrocarbons	28%	82%
nitrogen oxides	32%	34%

These reductions were greater than the reductions achieved by cars. Moreover, the emissions standards for new trucks adopted by EPA in 1985 will require heavy trucks produced in 1994 to emit 53% fewer nitrogen oxides and 83% fewer particulates than 1990 trucks.

These tough EPA requirements alone will impose a significant "pollution tax" on truck owners: In order to meet 1994 emissions standards, refiners will have to produce a new, "clean" diesel fuel. This fuel will carry a higher price just as surely as if it had been taxed. It is estimated that this cleaner diesel fuel will cost 3 to 5 cents per gallon more than today's fuel. In addition, the new trucks are likely to cost more to buy and may cost more to maintain.

Nevertheless, the trucking industry recognized its responsibility to reduce emissions. ATA worked with the refining, truckmaking and engine industries to come up with a combination of fuel and vehicles that would meet the 1994 standards. We believe these standards will be far better targeted, and thus more effective at cleaning the air, than a general fuel tax. A tax on diesel fuel would merely drain money from shippers, carriers and oil producers without leaving any industry with the financial means to improve technology and without significantly bettering the environment.

1/ Environmental Protection Agency, National Air Pollution Emission Estimates, 1940-1987, March 1989.

In any case, even a large tax on diesel fuel is not likely to produce much further cutback in usage. That is because demand for diesel fuel is very inelastic--unresponsive to price changes. Truck owners are already running their vehicles as efficiently as possible. They have no alternative to diesel to keep their vehicles running, and no breakthrough appears to be in sight, despite millions of dollars being spent on research by truck, engine and fuel makers.

A diesel tax would reduce demand for fuel only to the extent it lowered demand for trucking services. But since trucking is driven by the demand for goods in the economy, demand for trucking will not drop unless there is a general economic slowdown. The inelastic demand for diesel fuel occurs because transportation is a small but absolutely essential part of the cost of bringing goods to market. (Freight costs totaled 6% of gross national product in 1989.)

In other words, a diesel tax would cut pollution only by slowing the entire economy.

Gasoline tax: another dubious solution

A tax on gasoline would bring somewhat more relief, depending on pollutant and region. However, we do not believe the benefits would come close to justifying the burden on lower-income or rural families, on highway-related businesses, or on highway funding.

There is considerable uncertainty as to the price elasticity of demand for gasoline, that is, the degree to which users cut back demand in response to a price increase. Estimates for gasoline are generally in the range of .3, indicating that a 100% increase in price (for instance as the result of a tax of roughly $1 per gallon) would induce a cutback in use of 30%. Even assuming that gasoline-induced pollution fell by 50% as a result, gasoline purchasers would be paying $70-100 billion in additional taxes for a reduction in pollutants of less than 25%.

As with "clean diesel," the most promising alternative to gasoline appears to be "reformulated gasoline." This product appears to have the potential of significantly reducing automobile emissions without requiring a huge investment in new refinery, fuel marketing or engine systems. It would be very unfortunate if a misguided tax that applied to all types of gasoline and diesel fuel made reformulated gasoline--or clean diesel--uneconomic.

Alternative fuels

Every alternative to gasoline and diesel fuel, including ethanol, methanol, compressed natural gas and electricity, presents environmental risks as well. As long as these technological and environmental obstacles remain, a tax on gasoline or diesel will be ineffective at lowering pollution but will cause numerous hardships and market distortions.

For example, methanol is often suggested as an alternative to both gasoline and diesel fuel. However, methanol has many drawbacks. It is poisonous and water-soluble, meaning that it is easily absorbed through the skin. It is corrosive, implying that entirely new fuel systems, engines, hoses and other vehicle components would be required. It has only half the energy content of gasoline diesel fuel, forcing cars trucks to carry twice as big a tank or to refill twice as often. An enormous investment would be required in refining capacity, pipelines and service stations to make the fuel available in sufficient quantities nationwide to be usable.

Other alternatives have comparable shortcomings. None is feasible for now or the foreseeable future.

The trucking industry welcomes research into the development of alternative fuels. The greater the choice of fuels for cars or trucks, the less vulnerable any user is to supply disruptions or demand surges. Last December's shocking run-up in diesel fuel prices, caused by a combination of soaring demand for home and industrial fuel oil and multiple simultaneous supply problems, was reminder enough of how dependent trucking is on this fuel.

But highway fuel users should not have to subsidize development of alternatives, either through higher fuel taxes or depleted Highway Trust Fund revenues. Alternative fuels, if they become viable, will be equally important to railroads and other transport modes, and to residential, industrial and utility fuel users. The outlays or tax subsidies, if any, for producing these alternatives, should likewise be widely spread.

A FUEL TAX WOULD BE REGRESSIVE AND DISTORTIVE

Both gasoline and diesel fuel taxes, whether for environmental, conservation or deficit reduction purposes, would produce major economic hardship. A gasoline tax would be regressive, would discriminate geographically, and would harm many travel- and highway-related businesses. A diesel tax would be very hard on many trucking businesses. Both taxes would hurt U.S. competitiveness by making freight transportation and other inputs for U.S.-made products more expensive.

Punishing the poor and moderate-income

A gasoline tax, whether for environmental purposes or deficit reduction, is very regressive. Consider these results from a variety of recent reports:

o A 1987 Congressional Budget Office paper found that a federal fuel tax absorbed seven times as great a percentage of the income of families with incomes of $5000 or less than of families with more than $50,000 in 1985.[2/]

o A 1987 study by KPMG Peat Marwick showed that even a 5-cent-per-gallon increase in gasoline tax would more than offset the income tax relief that lower-income families received from the 1986 tax reform.[3/]

o In fact, the federal tax system is already getting less progressive. The share of all federal taxes paid by families making less than $20,000 in 1989 has risen by 12% in the past decade, whereas the share paid by families making more than $60,000 in 1989 has fallen by 4.3% in the same period. A 1989 study by KPMG Peat Marwick found that a $20-billion excise tax increase (for instance, from a 20-cent "environmental" gasoline tax) would have pushed up the share of all taxes paid by low- and moderate-income families by nearly 18% over the decade. The share paid by the wealthiest families would have fallen by 5.3%.[4/]

2/ Congressional Budget Office Staff Working Paper, "The Distributional Effects of an Increase in Selected Federal Excise Taxes," January, 1987.

3/ KPMG Peat Marwick Policy Economics Group, "An Analysis of the Regressivity of Excise Taxes," May 1987.

4/ KPMG Peat Marwick Policy Economics Group, "Changes in The Progressivity of the Federal Tax System: 1979 to 1989," April 1989.

o Some gasoline tax advocates have tried to dismiss the regressivity problem by suggesting that the earned income credit could be raised enough to compensate lower-income families for the added gasoline tax. The 1989 Peat Marwick study identified two grave drawbacks with this approach. The first problem is expense. An increase in the current credit rate sufficient to refund all additional gasoline tax revenue collected from families making less than $20,000 in 1989 would cost more than 25% of the fuel tax revenue. The second problem is unfairness within the lower-income group. While many working families would receive a credit greater than their excise tax increase, retirees and the unemployed would pay more. In fact, the study showed that only one-ninth of the families would come out roughly even. Nearly a fifth of the families in the under-$20,000 group would receive a windfall tax reduction of at least 10% of their total federal tax burden, and nearly a third would be left with a tax increase of at least 10%.

Geographic imbalance

The inequities of this tax would not be limited to low- and moderate-income families. Gasoline usage, and hence gasoline tax burdens, varies greatly by state. In 1987, the federal motor fuel tax burden per household was $243 in Wyoming and less than $100 in the District of Columbia ($67), New York ($91) and Hawaii ($94), based on Federal Highway Administration and Census Bureau data. It is especially ironic that residents of Wyoming, where the air is far cleaner than in D.C. or New York City, would have to pay three to four times as great a "clean air tax." Indeed, the relative burden could be even greater. Washingtonians and New Yorkers have a much greater opportunity to switch to transit, carpooling or walking than Wyoming residents who have no alternative to automobiles.

Burdening selected industries

Although demand for gasoline is fairly inelastic overall, some usage is relatively discretionary. Low- and moderate-income families will keep using their cars to go to work but may give up a family vacation by auto in the face of higher fuel costs. Numerous travel- and tourism-related industries would suffer as a result. This cutback would compound the hardship for states that now rely heavily on recreational automobile travel, such as Wyoming.

A stiff diesel fuel tax would have a severe, even fatal, impact on many trucking businesses. Again, the impact would be irrespective of whether the truck operated in a region with polluted or clean air. In fact, a higher percentage of truck mileage occurs in unpolluted nonurban areas (principally along Interstate highways between cities) than for automobile mileage.

Whether trucking companies could pass on the higher fuel tax would depend in part on whether the tax applied as well to fuel used by other modes, especially rail. Of course, a diesel tax for clean air or conservation should be levied on all modes, as is the Leaking Underground Storage Tank Trust Fund tax. In that case, the tax would largely be passed on to shippers and customers (the correct result for a goal like clean air, which should be everyone's burden).

However, even if the tax caused no distortion in choice of mode, many trucking firms that are operating at low margins or in the red would be driven out of business before prices rose enough to allow them to recover their added costs. As it is, trucking alone must bear the cost of 1991 and 1994 emissions rules and their implicit "tax" of higher equipment, fuel and operating costs. Railroads are not subject to any of those rules.

Effect on U.S. competitiveness

Higher fuel costs would be passed on to business both through higher bills for shipping freight and through higher costs for the large number of miles of business travel by car (and air, if airline fuel is included in a tax, as it should be). Because foreign producers would incur none of these costs at the production stage, they would gain an advantage over U.S. competitors. (Foreign manufacturers would feel the tax on only the final shipment from port to U.S. inland destination, whereas domestic makers would pay at each intermediate stage of production and distribution.)

A FUEL TAX WOULD DESTROY HIGHWAY FUNDING MECHANISMS

Last week, the House Public Works and Transportation Committee began re-examining the federal Highway Trust Fund, and the Administration released a new national transportation policy. Many other commenters and studies have already pointed out the pressing need for added spending on highways.

The fine highway system this country enjoys was funded largely through dedicated fuel taxes. Future highway spending should continue to rely heavily on fuel taxes. It would be tragic to destroy this vital and effective funding mechanism by imposing a steep fuel tax for nonhighway purposes.

A $1-per-gallon tax would cut gasoline usage by perhaps 30%. That would knock $3 billion out of the federal Highway Trust Fund and a similar amount out of state coffers. Even worse, the diversion of fuel tax revenues to nontransportation purposes on a massive scale would send a message to the states that they should do the same. Finally, enactment of a large federal tax would make it much harder for many states to pass their own fuel tax increases, leaving highways still more underfunded.

CONCLUSION

A fuel tax for clean air or conservation entails few benefits and many costs. The improvement in air quality would be minimal and might even be offset by lost opportunities for cheaper alternatives. The price to low- and moderate-income families, to highway-dependent businesses (including but not limited to trucking) and to regions of the country that already have clean air would be unacceptably high. And the threat to federal and state highway programs would be severe, at a time when consensus is emerging that more highway spending is needed.

For all of these reasons, I urge you to reject any such tax.

Mr. GIBBONS. All right. Let's see—Mr. Keating.

STATEMENT OF DAVID KEATING, EXECUTIVE VICE PRESIDENT, NATIONAL TAXPAYERS UNION

Mr. KEATING. Mr. Chairman, thank you for the opportunity to appear today. I represent the 200,000 members of the National Taxpayers Union, people who are interested in limiting the burden of the taxpayer and cutting the deficit.

I don't think anybody can argue; just walk outside today, whether we face grave environmental problems. The question is how we address those problems.

Due to the development of our legal system, there are no property rights to clean air and clean water. People can't sue to get the water upstream cleaned up, because they don't own the water. As a result, our air and water is a classic case of the tragedy of the commons—they are overused, and overpolluted. The price of our goods often doesn't reflect the environmental costs incurred from degradation or destruction of the environment.

We would agree that these externalities should be incorporated into the price of the goods to the greatest degree possible, so the market can make a good decision. We don't oppose the use of fees or taxes to internalize environmental externalities, provided three basic conditions are met. First, any environmental fee or tax should be used to reduce other taxes elsewhere. We oppose a tax increase masquerading under the banner of environmental protection.

Second, the supposed environmental costs at which the fee or tax is directed should be certain, not the latest fad of the week, and the fee and tax imposed should be closely associated with the environmental cost or degradation; otherwise, we risk harming the economy, and putting people out of work.

If the environmental tax or fee is not linked to the environmental effects, which it is supposed to cover, it does little to alleviate pollution, and amounts simply to another increase in taxes.

Third, the cost of administering such a fee or tax should be reasonable.

One tax that definitely won't help the environment to any great degree is a gas tax increase. We oppose an increase in the excise tax on gasoline to compensate for alleged environmental damage, and we make this conclusion from a variety of considerations. First of all, the fuel tax is not a true user fee. It doesn't charge the transportation consumer a price based on the cost, and those costs are pavement deterioration, congestion, and as we all know, pollution.

Now, in the United States, we don't have to wait for months to buy a car. In the Soviet Union, the people might have to wait months, or even years, to get one; yet, the difference is, in the United States, we sit in traffic, probably for months, or seemingly years, during our lifetime, and I think that you can see why. It is because the Government runs the roads, but doesn't build the cars.

So we think that the price should be associated with the environmental cost, and it is not just building the roads, but it is congestion, and the pollution.

Now, raising the fuel tax doesn't get at pollution. You are taxing what goes into the engine, not what comes out of the engine. As anyone knows, driving behind an old beatup Washington cab, that old beatup cab pollutes much more than a brand new car just purchased at the Chevrolet dealer.

So raising the fuel tax isn't going to help the environment, to any great degree. If you want to get at the pollution source, tax what comes out, not what goes in.

Mr. GIBBONS. How do we do that?

Mr. KEATING. It is something that I think we can do. When you take your car to the D.C. inspection service, and in Maryland, they stick something up your car's tailpipe, and they measure its pollution output. There is no reason why the auto owner couldn't be billed on a monthly basis, just like their electric bill, their gas bill, their phone bill, based on how much pollution is coming out of that tailpipe. Look at the odometer, you look at how much pollution is coming out of that car, and you charge for the pollution. That would give people an incentive to do three things: First, maintain that car better, so it doesn't pollute so much; second, go out and buy an after-market cleanup device for an older engine; or third, scrap the car, or send it out to some other part of the country where there isn't a pollution problem. We don't need to tax people on pollution if they live in Miles City, MT. We need to tax pollution in the urban areas.

There is another problem with the fuel tax that Mr. Donohue alluded to. If you raise the fuel tax, people in Montana are going to pay for it, but they don't have a pollution problem in the rural areas. There may be some pockets of pollution in Montana, but the people in the rural areas don't have that problem. If they are paying a higher fuel tax, you are not going to help the environment very much.

Mr. GIBBONS. Go ahead, if you wish.

Mr. KEATING. Another thing that I would like to point out is another cost related to highways. We have seen the potholes, and we have seen the other damage to the highways. Most of that damage comes from the heavy trucks. Now, we tax trucks, for diesel fuel and some other things, but studies show, again and again, that we don't tax them enough to pay for the damage they do to the highways.

Mr. GIBBONS. Mr. Donohue, would you like to be heard at that point?

Mr. DONOHUE. Trucks are 10 percent of the traffic on the highways; they pay approximately 50 percent of the taxes. I would not argue that in one direction or another, down or up, there is some elasticity in exactly how much we should be taxed, but the facts are very clear, notwithstanding the railroad's point of view. The facts are very clear. We pay a very significant percentage of that tax. We are very willing to look at ways to offset any damage that we cause.

For example, Mr. Chairman, if, in producing a new road, or repairing the road, if we were to add one inch more of pavement, we would get twice the wear, and could sustain a significant movement on that pavement. There are lots of things we can do togeth-

er, without taking the very simple approach to say, "Well, those are big trucks."

Politically, as you understand, that is pretty easy to be against, until people find out that you need four of them every night in your neighborhood to fill up your supermarket. But if we just get smart, and build the roads correctly; if we get smart and load the trucks correctly; and if we count the numbers, and stay away from the emotion, we will find a fair amount to pay, and we are ready to do that. We are prepared to pay more into the highway bill this next time it comes up to build roads, and I'm sure the cars want to do the same.

Mr. GIBBONS. Mr. Keating, go ahead.

Mr. DONOHUE. Mr. Chairman, I find it very fair, and I appreciate that.

Mr. KEATING. It sounds fair. But I think the statistics are——

Mr. GIBBONS. He is talking about me I guess, the fact that I let him intervene. I did not think he was going to agree with you, Mr. Keating.

Mr. KEATING. Well, the statistics are not from the railroads.

Mr. GIBBONS. We will have to add railroad people to the panel from now on.

Mr. KEATING. The American Association of State Highway and Transit Officials has plenty of statistics that will show that trucks are doing more damage than they are paying for in taxes. The Brookings Institution recently came out with an excellent study called Road Work that shows in some cases trucks are doing as much as $1.83 in damage per mile and paying less than one-tenth of that cost in taxes.

The problem is the heavy, heavy trucks with just one axle in the back. We need to have some sort of fee based on the axle weight, not on the total weight, because it is the axle weight that really does the damage.

One thing that we want to make clear is that there are some side effects here. When you are allowing the trucks to get a subsidy by not paying the full freight for the Nation's roads, you are undercutting competitors such as railroads. You are undercutting people who would like to grow crops or produce goods in a local area. And as we all know, the cost of pollution per ton mile is less for rail shipping, and it is also a lot less if you do not have to ship freight as far.

I would also like to briefly address Federal tax breaks for energy. We still see a lot of tax breaks, preferential tax treatment for fossil and nuclear resources. And these subsidies distort market decisions. We favor making a level playing field for all kinds of energy development as well as energy conservation. The tradeoff should be lower marginal tax rates.

I would also like to briefly talk about the tax treatment of employee parking, vanpools, and transit passes. We think you should equalize the tax treatment of all three, either deny the deductibility and use the revenue to lower tax rates, or allow a deductibility for all forms of employer subsidies of their employees to get to work.

Finally, the National Taxpayers Union thinks one thing Congress should do is stop spending money on projects that hurt the

environment. My testimony goes through a number of areas where you can actually cut spending, cut the deficit, and help the environment.

Thank you very much.

[The statement of Mr. Keating follows:]

NATIONAL TAXPAYERS UNION

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Statement of David Keating
Executive Vice President
National Taxpayers Union

before the

Committee on Ways & Means

on

Federal Tax Policy and
the Environment

March 14, 1990

Mr. Chairman and members of the Committee, thank you for the opportunity to appear today on federal tax policy and the environment. I represent the National Taxpayers Union, a 200,000-member group that is interested in limiting the burden of the taxpayer.

No one will argue that we have grave environmental problems facing our planet. Yet it is the means to the end that is in question -- what is the best method to clean up the messes we've made and how best to stop the same from continuing to happen.

One of the primary justifications for environmental controls is so-called "externalities" -- costs which result from particular products or services which are not borne by the producer, nor reflected in the price charged for the good, and thus not borne by the consumer either. For example, if the production of a chemical results in a waste stream discharged into a river that renders the water undrinkable by all downstream users and kills all the fish, then an "externality" or "externalized cost" of that chemical is whatever higher cost is borne by downstream users to obtain potable water, plus some amount to represent the cost to fishermen and naturalists attributable to the loss of the fish.

This kind of "externality" can be addressed in several ways. One commonly used but inefficient method is simply to ban release of the waste stream, or to limit the release to levels thought to be harmless. Another less-commonly used method is to levy a fee or tax sufficient to cover the damage done by the waste stream, and ideally sufficient to limit the waste stream to some "optimal" level from a societal point of view. This method basically seeks to compel the producer of the waste, or at least the consumer of the product associated with the waste, to "internalize" (to pay the cost of) the societal costs resulting from the waste. Another way of attacking the problem is to grant property rights in order to prevent this "tragedy of the commons." Those who owned water rights to the river would have a clear incentive to minimize its degradation.

Due to the development of our legal system, the price of goods often does not reflect environmental costs incurred from degradation or destruction of the environment. These externalities should be incorporated into the price of goods to the greatest degree possible. National Taxpayers Union does not oppose use of fees or "taxes" to "internalize" environmental "externalities" provided three basic conditions are met.

First, the "environmental" fee or tax should be used to reduce taxes elsewhere. NTU opposes a tax increase masquerading as "environmental protection."

Second, the supposed "environmental" cost at which the tax or fee is directed should be certain, and the fee or tax imposed should be closely associated with that cost so as to minimize the environmental degradation and prevent harm to the economy. For example, if a particular chemical resulted in a waste stream imposing environmental costs, a tax on all products using chemicals would do little to discourage use of that particular chemical, nor would it be especially helpful in minimizing the waste stream associated with that chemical. However, if the fee or tax were levied on the waste stream itself, the chemical manufacturer would have an incentive to minimize or to eliminate the waste stream, and to the extent he did not, he would be forced to

bear the fee or tax in the form of decreased profits, or, if passed on to consumers, in the form of decreased sales.

If the environmental tax or fee is not sufficiently closely linked to the adverse environmental effect which it allegedly is supposed to cover, it does little to alleviate the adverse environmental effect and amounts simply to another increase in excise taxes.

Third, the cost of administering the fee or tax should be reasonable.

A Gas Tax Increase Won't Save the Environment. National Taxpayers Union opposes any increase in the excise tax on gasoline to compensate for alleged environmental damage. This conclusion flows from a variety of considerations.

The federal fuel tax is more a revenue raising excise tax than a true fee related to the costs of highways. Because the fuel tax is not a true user fee it does not charge the transportation consumer a price based on the major contributing factors to highways costs: pavement deterioration, congestion and pollution. Since the fuel tax is merely a general excise tax essentially unrelated to road costs, it causes motorists to treat highways as essentially "free goods" and like other subsidized "free goods," there is an overdemand for them. Meanwhile, other environmentally sensible transportation alternatives are neglected.

Raising the fuel tax does not directly alleviate or address the problem associated with environmental externalities. Air pollution is certainly a problem associated with gasoline. However, raising the fuel tax is an awkward means to get at the underlying pollution problem that is directly associated with pollutant emissions. Pollutant emissions vary enormously from vehicle to vehicle, or at least between different kinds of engines and exhaust/emission control systems. A far more sensible way to reduce pollutant emissions is to tax vehicles on the basis of their emissions and where the emissions take place A car dows much more environmental harm in Los Angeles than in Miles City, Montana.. This would encourage manufacturers to construct vehicles with lower emissions, and would similarly encourage consumers to purchase such vehicles, better maintain their vehicles or improve their vehicles.

Fuel taxes also bear little relationship to the real costs of highway construction and reconstruction. To reflect the true costs of providing highway construction and reconstruction services, cost-based pricing should be implemented. Road wear costs and congestion are the two factors that should be reflected in the pricing policy.

Trucks are responsible for much of the damage to the road surface. Since pavement wear increases exponentially with increases in axle weight, an axle weight fee on heavy trucks should be imposed. Such a change should also help the environment, because it would reduce the subsidy to heavy trucks and make rail freight, which causes less pollution per ton mile, more competitive.

The fuel tax has historically been linked to expenditures for road construction, and increases in the fuel tax have been linked to increases in the size and weight of trucks. The trucking industry will in all probability, as it did in 1982, insist on a "quid pro quo" in the form of an increase in truck size and weight limits in the event of increased fuel taxes. Only a true axle weight fee avoids this false trade-off.

Congestion is the other major problem with our highways. A sound pricing system would implement a peak-load pricing system that would discourage travel at the most congested times and places. Such a move could cut automobile pollution by raising peak-time traffic speeds and the number of passengers in each automobile.

Many environmentalists criticize our transportation system's reliance on motor vehicular highways as environmentally obnoxious due to alleged linkage to suburban sprawl, urban decay, inefficient transportation generally, and overconsumption of land for highways, streets, parking, and so forth. One has to question whether far more is lost than gained from an environmental point of view in connection with a gas tax increase.

Raising the gas tax is no solution to the environmental problems facing our nation. The National Taxpayers Union is concerned that it may become a mask for obtaining more revenue to spend for highway construction and other programs that ought to be financed through user fees.

Tax Breaks for Energy.

Federal tax breaks for energy are still substantial. Most of these subsidies occur as a result of preferential tax treatment for fossil and nuclear resources. These subsidies severely distort market decisions by promoting some of the most expensive options over lower cost options. Most of these subsidies should be reduced or eliminated in order to create a more level playing field with lower marginal tax rates. Why, for example, should oil exploration and drilling get preferential tax treatment, while purchasing highly fuel-efficient vehicles does not, although the latter is several times more cost-effective than the former on a barrel of oil equivalent basis?

Those in favor of retaining these subsidies argue that they are vital to the American economy by ensuring the reliable development of energy supplies. This argument does not stand up under close scrutiny. Since the 1973 Arab oil embargo there has been a steady stream of scientific advancements and technological breakthroughs that make it possible for consumers to use energy more efficiently at a far lower investment cost than expanding new supply. Federal government tax incentive programs should not thwart these superior market investments by making more expensive options look artificially cheap.

Tax treatment of employee parking, van pools and transit passes. Allowing tax-free employee benefits for parking clearly encourages the use of the automobile over vans, buses and other forms of shared or mass transit. A slight reduction in air pollution and a slight increase in energy conservation could be expected by equalizing the tax treatment of these forms of commuting. Either the tax deductibility of employer expenses on van pools, transit passes and similar perks could be allowed or the tax deductibility of employee parking could be denied. In that case, the increase in revenues should be used to reduce other forms of taxes.

National Taxpayers Union reiterates its objection to any tax increase not offset by a tax decrease elsewhere. Government spending must be brought under control. As the huge deficit and the numerous unjustifiable subsidies riddling current fiscal policy continue, our first objective must be to rein in spending, and not extract more taxes in order to spend more.

Our current fiscal policy disburses certain subsidies for activities that are detrimental to the environment. All such subsidies should be eliminated. The following are several examples of subsidies that the National Taxpayers Union urges Congress to eliminate.

We believe a key means of achieving this goal is to cut and eliminate subsidies that lead to environmentally damaging outcomes. As my testimony details, billions of dollars could be saved in this manner.

Eliminate irrigation subsidies: It is ironic that the U.S. agricultural commodity program is paying farmers to restrict cultivation of certain crops that are in surplus, while at the same time, the Bureau of Reclamation is providing farmers with irrigation water at below market cost. A 1984 U.S. Department of Agriculture study found that 45% of the lands irrigated with federally-subsidized water are being used to grow crops that farmers are paid not to grow. In other words, taxpayers are subsidizing half of the crops that are grown with subsidized water and then are again paying for these surplus crops to be stored.

A large percentage of federally subsidized water is used by large commercial growers. In some instances the government's outlay can be as much as $500,000 per farm.

Full-cost pricing should be implemented. Growers should be required to pay the full cost for irrigation water, particularly for surplus crops. Full-cost water pricing would eliminate the double subsidy for farm and irrigation

programs and allow farmers who do not receive irrigation subsidies to better compete in the marketplace.

Restructure the uranium enrichment program: The Department of Energy's uranium enrichment program is required in Section 161v. of the Atomic Energy Act to recover all costs from its customers, the nuclear electric utilities. To date, according to the General Accounting Office (GAO) the unrecovered costs total $9.6 billion. These unrecovered costs could be recaptured by imposing a small fee for a number of years on the nuclear electric utilities.

The National Taxpayers Union has been on record as opposing the current structure of the uranium enrichment program and has offered thoughts as to how to restructure the program in a more business-like manner. We are happy to provide more details on request.

Eliminate subsidies to the timber industry: The U.S. Forest Service, entrusted with management of our national forests, runs an enormous road construction program. Its road network totals some 355,700 miles, 8 times the size of the interstate highway system or enough to encircle the globe 14 times. These roads are constructed at taxpayer expense; nevertheless 94% are solely for the purpose of fostering the harvest of timber by private companies. Building the infrastructure to carry on one's business activities is simply a cost of doing business, and should be borne by the industry and not by the taxpayer.

Currently, there are 1.2 miles of roadway for every square mile of national forest, yet the Forest Service wants to build 87,000 more miles of roadway by the year 2040. The cost for this enormous undertaking would be at least $4 billion -- or $45,000 per mile.

Although these roads are built solely for harvesting timber, many access timber where there is little hope of recovering these costs. Thus, a large volume of timber is sold below the costs incurred by the Forest Service for growing and providing access to the trees offered for sale.

Sound market economic and sound environmental policies should coincide in our national forests. There are more efficient ways to run this program. 1. Congress should direct the Forest Service to verify that cash receipts from all timber sales meet or exceed logging costs on an annual basis. 2. There should be a reduction n the Forest Road program overall. 3. Installation of market-based user charges for recreation and other services such as fishing, hunting, camping, hiking, etc. should be implemented.

Eliminate subsidies for construction on coastal barriers. The National Taxpayers Union supports expansion of the current coastal barrier resources system, as recommended by the Interior Department. Under 1982 legislation, the federal government is prohibited from subsidizing development on land included in this system.

In 1989 a study by the National Taxpayers Union and National Wildlife Federation concluded that expansion of the system to include the Interior Department's recommendations could lead to savings of up to $9.3 billion over the next twenty years alone.

In conclusion, we urge the Committee to study this area carefully. The clearest need for action is to reduce disparities in the tax treatment of different energy and transportation investments and to eliminate federal spending programs and subsidies that harm the environment and add to the deficit.

Z6:26

Mr. GIBBONS. Thank you, sir.
Dr. Ruane.

STATEMENT OF T. PETER RUANE, PH.D., PRESIDENT AND CHIEF EXECUTIVE OFFICER, AMERICAN ROAD & TRANSPORTATION BUILDERS ASSOCIATION

Mr. RUANE. Good afternoon, Mr. Chairman.

I am Pete Ruane, the president and chief executive officer of the American Road & Transportation Builders Association. I appreciate the opportunity to come before this committee this afternoon to present testimony on issues relating to the impact of taxes, particularly environmental taxes, on the Nation's transportation programs.

ARTBA is a federation of interests representing the entire spectrum of the transportation construction industry including those who plan, design, build, and manage the Nation's highways, roads, and bridges, airports, and railways.

I would like to share with the committee some of ARTBA's concerns regarding the proposals under consideration as well as our views on America's transportation needs.

As you know, Mr. Chairman, over the next 18 months, the Congress will be looking at the future of the Federal highway program, which is in very serious trouble. While the Federal highway system only comprises some 22 percent of the Nation's total road mileage, we are all aware, I hope, that over 80 percent of the travel takes place on this system.

According to the U.S. Department of Transportation's own studies, as detailed in the recent report to Congress, more than 28 percent of the bridges on this system are either functionally obsolete or structurally deficient, and over 40 percent of the highway pavement is either in poor or fair condition.

In the same Department of Transportation report DOT has clearly stated that meeting the existing capital needs on the Federal highway system will require an expenditure of $40 billion per year, about $25 billion additional to what we are paying right now, to meet 1985 minimum engineering standards.

Meeting this challenge in light of all the other competition for scarce resources in the Federal Government is obviously a major challenge facing public policymakers today. The highway trust fund, again the entire program, is up for reauthorization in 1991. And we intend to work with colleagues both here and elsewhere to ensure that adequate attention is given to the financial needs of the transportation industry.

Increased vehicle traffic, poor road conditions, and limited capacity are all, of course, contributing to air pollution, which is the subject of today's hearing. Eighty-six percent of the Nation's workers do in fact commute to work. As others have cited today, the growth in this trend is continuing and will go up some 2 to 4 percent per year.

The Federal Government also has estimated that the Nation wastes 1.25 billion hours and 1.38 billion gallons of gasoline in traffic congestion on limited access highways each year. By the year

2005, this could soar to 6.9 billion hours in lost productivity, and 7.3 billion gallons of wasted fuel.

Again, the U.S. Department of Transportation has estimated that by 1995, the U.S. economy could miss out on an increase of 3 percent in gross national product, 5.9 percent in disposable income, 2 percent in employment, and 2.7 percent in manufacturer productivity if greater spending is not undertaken to meet the needs.

Now, how we got into this situation is simply a matter of disinvestment. As a percentage of gross national product, the Federal Government's share of transportation infrastructure spending has gone from 1.4 percent in the early 1960's to 0.5 percent, less than 1 percent, today. At the same time, traffic has increased over fivefold during this period.

Inflation has also been a hidden factor in this problem. The U.S. inflation rate over the last 28 years has gone up over 300 percent, while highway user fees have gone up over 100 percent. If you applied simply moderate inflation factors against that trend, we would have to be paying a 26-cent-per-gallon user fee by the year 2000 just to stay up with inflation.

Again, some of the other witnesses——

Mr. GIBBONS. That makes Mr. Donohue happy over there. I can see him. Go ahead. And Mr. Keating also.

Mr. RUANE. At the same time, we are paying a hefty hidden tax. Trucking costs, as Mr. Donohue knows very well, for example shoot up by over 6 cents per mile when highway surface conditions drop from good to fair. As I noted earlier, the Department of Transportation has classified some 40 percent of the pavement condition in this Nation as being in that kind of condition.

The Road Information Program, an independent organization, has also estimated that we are losing over $16 billion a year, or an average $99 per motorist, because of poor road conditions.

Solutions to these problems can be thought of in terms of some of the clean air objectives that the Nation is considering. The way we suggest that this be approached is to have Congress authorize an additional $25 billion a year to raise the spending level to $40 billion by fiscal year 1992, coincident with the reauthorization of the Federal highway program. We suggest that the Congress pursue this as part of the reauthorization and part of the transportation policy that has been identified in the past few days by the Bush administration and Secretary Skinner.

As part of this, we believe Federal user fees for gasoline and diesel fuels would have to be significantly increased to raise this additional $25 billion. There would be environmental benefits in terms of the reduced traffic congestion that would ensue once these improvements are made.

Also, raising of revenues to this level would allow Federal and State governments to make the proper investments in smart highways, other computer technology, and overall traffic management improvements that again would have a salutary effect on reducing congestion.

I want to emphasize though, Mr. Chairman, to this committee that ARTBA is not in favor of a raising of the gasoline tax or user fee to support nontransportation purposes, such as supporting reductions in the Federal deficit. This would have a chilling effect on

the Nation's transportation programs and, as two of the witnesses have already identified in the last few minutes, would simply not allow the Nation to respond to this tremendous challenge that it faces to take care of the infrastructure problems.

In summary, we believe that no gas taxes should be raised to take care of the deficit reduction problems. We believe that they should be raised though to take care of the transportation infrastructure challenge that we face. The clean air benefits that would ensue would primarily result from the reduced traffic congestion. Finally, we would favor a major increase in Federal motor fuel levies again, for transportation improvements.

Thank you, Mr. Chairman.

[The statement of Mr. Ruane follows:]

Statement o
Dr. T. Peter Ru ne
President and CEO
American Road and Transportation Builders Association
Before
The Committee on Ways and Means
U.S. House of Representatives
on
Transportation Taxes and Environmental Pollution

Good morning, Mr. Chairman and members of the committee. My name is Pete Ruane and I am president and chief executive officer of the American Road and Transportation Builders Association, which is based here in Washington, D.C.

ARTBA has been providing Washington representation for the transportation construction industry since 1902. Our 4,000 members nationwide hail from both the public and private sectors. We represent not only construction firms, but also state and local transportation officials, manufacturers of heavy construction equipment, consulting engineering and design firms, material and traffic safety device suppliers, and educators in the fields of transportation planning and civil engineering.

Mr. Chairman, on behalf of our membership, thank you for inviting ARTBA to provide its views on the use of certain transportation user fees to achieve national environmental goals. Our testimony will relate to such proposals to not only meeting environmental goals, but also the nation's highway and bridge capital needs.

At the outset, I will say that the decisions that the Congress makes over the next 18 months regarding traditional transportation user fees will have a direct impact on the nation's future economy and well-being.

Mr. Chairman, America's federal highway system — the backbone of our national economy — is in serious trouble.

While this network of highways and bridges comprises only 22 percent of the nation's total road mileage, it carries 81 percent of all travel — more than 1.6 *trillion* miles per year.

According to the U.S. Department of Transportation's 1989 report to Congress, more than 28 percent of the bridges on the federal system are either "structurally deficient" or "functionally obsolete." More than 40 percent of the pavement on the system, the report said, is in "poor" or "fair" condition.

In total, the U.S. Department of Transportation said, meeting existing capital needs on the federal highway system alone will require a $40 billion per year annual investment — about $25 billion per year more than current federal spending.

Meeting this financial challenge is one of the greatest public policy issues facing the nation as we move toward the 21st century. Failure to do so will have a profound effect on the nation's economy, defense and the quality of American life.

As you know, the federal highway program — the driving force behind the state highway and bridge improvement programs — the Highway Trust Fund and the user-fees that support the program, are up for reauthorization by the U.S. Congress in 1991. We must take advantage of this opportunity to turn around the highway and bridge situation and begin meeting our future transportation needs.

The problems caused by the deterioration of the federal highway system are becoming more apparent every day. Increased vehicle traffic, poor road surfaces and limited capacity are all contributing to air pollution.

Eighty-six percent of all American employees commute to work by private vehicle — up almost 17 percent since 1960. And they now face "significant" rush hour traffic on 65 percent of the Urban Interstate mileage. The level of traffic on the federal system is expected to grow two to four percent per year.

According to the federal government, the nation wastes 1.25 billion hours and 1.38 billion gallons of gasoline in traffic congestion on limited access highways each year. By the year 2005, that waste could soar to 6.9 billion hours in lost productivity and 7.32 billion gallons of squandered fuel.

Economists at the U.S. Department of Transportation estimate that if our highways are allowed to continue to deteriorate, by 1995 the U.S. economy could potentially miss out on increases of 3.2 percent in Gross National Product, 5.9 percent in disposable income, 2.2 percent in employment and 2.7 percent in manufacturing productivity.

We got into this situation through *disinvestment*. Total public capital expenditures for highways and bridges have dropped, as a percentage of Gross National Product, from almost 1.4 percent in the early 1960s to about 0.5 percent today. Over the same time period, traffic using the system increased nearly five-fold.

Inflation has also been a hidden factor. Between 1959 and 1988, the U.S. inflation rate as measured by the Consumer Price Index, rose 306.5 percent. Yet the federal gasoline user-fee, the primary source — along with the diesel fuel user fee — has increased only 100 percent, from four to eight cents-per-gallon in 1982 (an additional one cent-per-gallon is collected for mass transit assistance).

Assuming a moderate future inflation rate of four percent per year, the federal gasoline user fee would have to increase to 26 cents-per-gallon by the year 2000 *just to maintain its 1959 purchasing power.*

Mr. Chairman, the condition of our highways and bridges is now forcing Americans to pay a hefty "hidden tax."

Trucking costs, for example, shoot up by 6.3 cents-per-mile when highway surface conditions drop from "good" to "fair," or "barely tolerable for high-speed traffic," according to the Federal Highway Administration. This cost, of course, is passed on to every American consumer.

But that's not all, research by The Road Information Program shows that bad roads add over $16 billion per year to the cost of driving in the United States — $99.60 for each licensed driver.

The solution to our highway problem should be thought of in tandem with meeting clean air objectives.

The American Road and Transportation Builders Association believes the U.S. Congress should authorize a $40 billion per year highway and bridge improvement program, for a minimum of five years, beginning in Fiscal Year 1992.

To accomplish a program of this magnitude, we suggest that Congress ensure that all user-fee revenue that has been contributed to the federal Highway Trust Fund — plus the interest earned on that money — is spent in a timely manner. As 1990 began, the trust fund's highway account had a "checkbook balance" in excess of $10 billion.

We also believe that the federal gasoline and diesel user fees should be significantly increased — effective in Fiscal Year 1992 — to raise the additional $25 billion per year that is needed to support the $40 billion annual program identified by the U.S. Department of Transportation to meet existing capital needs.

Raising the federal highway user fees to support an expanded federal highway program would have environmental benefits.

First, it would provide the funding necessary to help reduce traffic congestion in urban areas through surface and capacity improvements. We have also suggested to the Public Works and Transportation Committee that under a $40 billion per year program we would be able to begin implementing "smart highway" computer technology and other advanced traffic management techniques that can have an impact on congestion.

Second, the significant increase in the federal highway user fees that we are proposing would help reduce motor fuel consumption, thereby further minimizing vehicle emissions. It would also have the salutary effect of lessening the nation's dependence on foreign oil supplies.

I should emphasize that we would not support an increase in the federal highway user fees to support non-transportation federal spending or deficit reduction. In our view, that would break the trust with the American motorist that the Congress established in 1956 when it created the Highway Trust Fund.

Using the highway user fee mechanism to raise revenue for non-transportation purposes would have a chilling effect on the nation's highway improvement program and virtually ensure that America would never be able to meet its serious and growing highway and bridge capital needs.

Finally, we would ask Congress to remove the current six-cents-per-gallon federal tax exemption on the sale of gasohol that diverts up to $500 million per year from the Highway Trust Fund. In our view, any motor fuel or energy source that uses the federal highway system now or in the future should contribute its fair share to the system's improvement.

Along this line, I would like to comment on several pending proposals:

Under clean air legislation that has been proposed by President Bush, and in other bills that are currently pending in the House and Senate, additional revenue losses to the Highway Trust Fund are probable. The issues of alternative fuels, automobile emission standards, and minimum oxygenation requirements for the parts of the nation not attaining air quality requirements will most certainly lead to the use of fuels either only partially taxed or not taxed at all for the Highway Trust Fund.

The first concern relates to the Senate bill, S. 1630, which contains a provision requiring that automobile fuel burned in the most highly polluted urban areas contain 3.1 percent oxygen. Under existing technology, this oxygenation level can only be achieved by a mixture of gasoline and ethanol. This gives an additional boost to gasohol and with the Highway Trust Fund exemption still in place, creates a further loss for the trust fund.

The Federal Highway Administration has estimated that this additional loss could range from $250 million to $500 million per year.

Second, is the problem of alternative or clean-burning fuels. In the Administration bill and in S. 1630, such fuels are required. These fuels include methanol, compressed natural gas and others. Under the portion of the Internal Revenue Code dealing with the Highway Trust Fund, none of these fuels are taxed for the trust fund. A further revenue loss would obviously follow, leaving less than is currently raised each year for federal highway program spending.

Mr. Chairman, even if the Congress were to maintain the status quo with respect to highway spending, the two clean air fuel provisions that have been proposed would lead to reduced revenue and reduced spending. With the known highway capital needs referred to earlier in my testimony, the nation cannot afford to reduce federal highway spending from the current level of just under $14 billion per year.

ARTBA recommends that the *Highway Revenue Act* be modified to tax new fuels that are being mandated to address automotive emissions. No highway-related incentive is still required for gasohol, given its current market share and other federal policies.

Mr. Chairman, to summarize, our federal highway system is in serious disrepair and requires a significant, additional investment of federal resources. We recommend that the Congress increase the federal highway user fees to support a $25 billion per year expansion in the federal highway program, beginning in fiscal year 1992.

The American taxpayer wants clean air and a balanced budget, but not at the expense of meeting highway transportation needs. All of these issues must be intensely examined. In our view, a national transportation policy that guarantees a first-class highway and bridge network should be one of the nation's highest priorities.

Thank you again for this opportunity to present our views. I stand ready to answer any questions that you or other members of the committee may have.

Mr. GIBBONS. Well, Doctor, you know, if we followed your argument that you could only spend the money on what you want to spend it on, I would hate to think what would happen if we treated the Defense Department like that, you know, or the jails or——

Mr. RUANE. Well, that is simply adhering to the——

Mr. GIBBONS. If we just let you spend the money that we collect from you on what you want to spend it on, we would be in rough shape around here.

Mr. RUANE. We are addressing only, sir, the gasoline and user fees——

Mr. GIBBONS. I am talking about the cigarette tax, we want to spend that on the cigarette smoker. Or alcohol taxes, we can only spend it on the drunks or something like that.

Mr. RUANE. Our concern is——

Mr. GIBBONS. I know what your concern is: You do not want to pay any more taxes. I do not blame you. But it is a phony argument. You have used it—I have only been at this job about 40 years, and I have been listening to you all that time.

I used to have a client in Dr. Ruane's operation, and he was a fine fellow. Unfortunately he is dead now. But, you know, one time were riding down the road together and I said, God, look at that overloaded truck, it is really tearing up the highway up there. And he said, do not complain, Sam, it is paying your fees and building business for me. As long as he tears up the roads, I get to rebuild them.

So, you know, I understand the way the system works. We all do that.

Mr. RUANE. Our concern, Mr. Chairman, is simply that the dedicated user fees that have been collected since 1956——

Mr. GIBBONS. Oh, I know that. We all know that.

Mr. RUANE [continuing]. Be used for the express purpose of——

Mr. GIBBONS. We know that. But do you pay for all the automobile accidents on the road, the police, damage to people, and all of that.

Mr. DONOHUE. The Federal highway trust fund, sir, pays a great deal of that. There is a good deal of money that goes to the States exactly for those purposes. In addition to that, we pay up to 25 cents in some States additional fuel tax, both cars and trucks more.

Mr. GIBBONS. Then you pass it all on to the consumers. You have to. We are all consumers. We all pay for it. You do not pay for it.

Mr. DONOHUE. Have you looked at the profit margins in the trucking business over the last 3 years. They are less than 2 percent this year. And there is not enough money in this business now to buy new capital equipment. Passing it on to the consumers has become very, very difficult in the last years.

Mr. GIBBONS. Well, that is the operating of the market system.

Mr. KING. And for the individual automobile user that is obviously not a possibility. I mean they are absorbing the costs. And the sacrifice that they would have to make would be to simply not make the expenditures in other areas.

Mr. KEATING. Mr. Chairman, I agree with you. This trust fund—so called, it is not—should be used for the priorities of the Federal Government. And if there is something else that is a higher priority——

Mr. GIBBONS. Well, that is the way it is being used. Whether we like it or not, that is the way it is being used.

Mr. KEATING. That is true.

Mr. GIBBONS. You know, the Social Security trust fund is used that way. At least Moynihan got as close to the truth as anybody has gotten around here. These trust funds do not amount to a thing. They are just taxes, and there are no real reserves. And there cannot be any reserves as long as you have to invest all the trust funds in the general revenue fund.

Mr. KEATING. Well, the airport trust fund, for example, does not even pay for the air traffic control service.

Mr. GIBBONS. No.

Mr. KEATING. It is ridiculous.

Mr. GIBBONS. And Dr. Ruane's people do not want it to pay for the air traffic control system. They want to keep charging somebody else for that.

Mr. RUANE. No. We are in favor of using that trust fund to take care of the system's improvements and its capital improvement needs, but not for the day-to-day operational needs of the FAA.

Mr. GIBBONS. I understand.

Mr. KEATING. They want the average taxpayer to pay for it is what he is saying.

Mr. GIBBONS. That is right. I understand him. It is very clear. The consumer pays for everything. We are all consumers so what the heck difference does it make?

The railroads are not going to run you out of business, Mr. Donohue. With their management, their technology——

Mr. DONOHUE. Mr. Chairman, I am not worried about the railroad—I am not worried about them running us out of business at all. Between us and railroads, we carry 90 percent of the dollar value of the freight, or close to it. I am just preparing for an interesting debate as we come into the highway area.

Mr. GIBBONS. And they dump their sewage right out on the street. You and I could not dump our sewage right out on the street.

Mr. DONOHUE. They do not pay any user fees. And they are subsidized by the Federal Government in excess of $1 billion a year.

Mr. GIBBONS. Well, we will not beat on them. We will ask them to come to the next panel. They usually do not volunteer. I think I will arrange a panel for you and the railroads together. And that ought to be a good thing.

Mr. DONOHUE. Let us do it, let us do it.

Mr. GIBBONS. We will do that.

Mr. DONOHUE. Let us do that.

Mr. GIBBONS. The next time we have one of these things, let us get the railroads and the trucks up here together. I want to be here.

Mr. DONOHUE. Yes, sir.

Mr. GIBBONS. There may not be anybody else here, but——

Mr. DONOHUE. We will have a grand time.

Mr. GIBBONS. That is the kind I like.

Mr. RUANE. Mr. Chairman, one thing I would like to call to your attention——

Mr. GIBBONS. All right.

Mr. RUANE [continuing]. In this morning's Wall Street Journal is an editorial by David Aschauer, an economist with the Federal Reserve Board of Chicago, which I think makes the case of what most people do not understand, that the loss of productivity, profitability, and downturn in investment relates to spending on public infrastructure. I think he makes his case rather eloquently. And I would suggest that we make this available to the committee and the staff for your perusal.

Mr. GIBBONS. Most of us are wealthy enough to buy it.

Yes, sir. Well, I appreciate you all allowing me to pick on you a little while. And have you got any shots you want to take at me right now?

Mr. DONOHUE. No, Mr. Chairman. We enjoyed it.

Mr. GIBBONS. OK. I thought you did.

Mr. KING. I would note, Mr. Chairman, that tourism is especially important in the State of Florida.

Mr. GIBBONS. I know. I was down there with them last week. And let me tell you, we love tourists. We think that one good Yankee tourist is worth about 40 crates of oranges and a lot more fun to pick.

Mr. RUANE. We are going to be building the roads there also.

Mr. GIBBONS. All right.

Well, we come to our last panel I regret to say, but I wonder if they would come forward, Mr. Henneke, Mr. Lewis, Mr. Rinebolt, Mr. Condy, and Mr. Swisher. We have an all male panel here.

All right, Mr. Henneke. Did I get your name right?

STATEMENT OF BEN G. HENNEKE, JR., VICE PRESIDENT, CLEAN FUELS DEVELOPMENT COALITION, AND PRESIDENT, ENERGY FUELS DEVELOPMENT CORP., PORTALES, NM

Mr. GIBBONS. Mr. Henneke. All right, sir. Go right ahead.

Mr. HENNEKE. Mr. Chairman, I am Ben Henneke. I am vice president of the Clean Fuels Development Coalition, an educational organization here in Washington, I am president of Energy Fuels, an ethanol producer in New Mexico, and I am also a member of the Alternative Fuels Council.

Mr. GIBBONS. Can you all get along without the subsidy you are getting now?

Mr. HENNEKE. I think we will if we ever get a level playing field, sir. It was not my intent when I got into this business 10 years ago to need a subsidy forever. But I also never really recognized quite how strong a lock the oil companies, traditional fuel suppliers, had over the market.

Mr. GIBBONS. Well, would you give Bob Dole a signal as to when we can cut it off. Because, you know, with his powerful position over there, you ought to pray to him every night.

Mr. HENNEKE. Mr. Chairman, our prayers are perhaps more widely spread than even just Senator Dole.

Mr. GIBBONS. I recognize that. You have some on this committee too. But go ahead.

Mr. HENNEKE. The ethanol industry has always had to immediately defend, as we just did, the incentives.

Mr. GIBBONS. Subsidy.

Mr. HENNEKE. And the purpose of my testimony is to discuss those incentives and to see if they are worth keeping or not, and then to go on to a couple of broader issues that are important.

I am pleased that you are having this hearing because the Tax Code always gets involved. There is no such thing as an evenhanded or nonintrusive tax measure.

I have been involved in the coal business, which was heavily involved, unfortunately, in Tax Code issues such as cost depletion and investment tax credits.

I have also been involved in the last 10 years in the ethanol industry, which not only received the excise tax exemption that you described, Mr. Chairman, but also had investment tax credits, and energy tax credits, in order to encourage building plants. I would have to tell you that neither of the plants that I have been involved in building, a 3-million-gallon-per-year plant in Tucumcari, NM, and a 10-million-gallon-a-year plant, roughly $30 million in investment, in Portales, NM, would have been built without those incentives.

In addition, I am afraid we will not see a great deal more investment either in coal-to-methanol, coal-to-gasoline, coal-to-natural gas, ethanol production, LPG, or additional facilities caused just by market demand for oxygenates here in the United States. I have spent a good part of my career comparing the alternative costs of fuels, and I think we will see substantial investments in other countries in order to provide those oxygenates rather than investments here in the United States.

So, sir, the real key question, it seems to me, is whether or not that 60-cent incentive that the ethanol industry receives in fact pays itself back. And for the record a study has been submitted by Eastern New Mexico University, which looked specifically at that incentive's benefit around our particular little plant. I would not suggest that it is true in every situation—it happens to be true in that particular one—that we pay back the Federal incentive, strictly on economic benefits, four to one.

The industry does that by both providing jobs, and by raising the price of the crops for the farmers around there—and of course, that drops straight to their bottom line—but mostly it does it by giving away benefits to the consumer in the form of octane.

In addition to these benefits, there have been studies done which show that the cost of cleaning up the air is substantially less with clean fuels—ethanol, methanol, and their ethers—than it would be by any of the other means, such as inspection and maintenance.

I would suggest that for the future perhaps the tougher political, but better economic, thing might be, as you suggested earlier to the previous panel, to tax the polluter much more firmly and then allow free competition for all the different alternatives that can reduce pollution to occur in the background. I think that would end the discussions about incentives. It would end having the very first question be, "Can we get along without the subsidy?" If instead we started worrying about the true costs of some of the bad things that are in our traditional fuels. Thank you for the opportunity to testify here. And I will look forward to your questions because I certainly enjoyed what you did to the last panel.

[The statement of Mr. Henneke follows:]

BEN G. HENNEKE, JR. IS VICE PRESIDENT OF THE CLEAN FUELS DEVELOPMENT COALITION AND PRESIDENT OF ENERGY FUELS DEVELOPMENT CORPORATION.

Mr. Chairman, thank you for the opportunity to testify before the House Ways and Means Committee on this extremely important and timely topic — Tax Policy and the Environment.

First, I would like to state what is probably obvious. Tax policy is always important because there is no such thing as a totally neutral tax policy. Tax policy, by its nature, hurts or benefits certain business sectors, depending upon how those sectors are affected through either changes in the costs and availability of their needed raw materials and supplies, or changes in the demand for their products.

Second, I think this topic is important — Tax Policy and Environment — because the environment has for many years been treated "off balance sheet"; in other words, we have pretended that the things that we did to the environment were separate from the economic system. Damage to our air, our water, or our land was usually not counted in the cost of making a product. Health costs or pollution were borne by the government through Medicare, Medicaid, and veterans' hospital costs, and by the economy through higher health costs, insurance costs, and lower productivity, but the costs were not counted. Complaints about the cost of the Clean Air Act for 1990 makes it evident that clean air is related to the cost of doing business throughout our country.

I am old enough to have attended college when Paul Samuelson's basic Economics book discussed water and air as "free goods" because of their wide availability and natural occurrence at no cost to the manufacturer or the society. Clearly, clean water and clean air are basic needs for survival, which now require substantial costs to preserve. I am here to testify on this issue as both an environmentalist and as an energy industry businessman who has developed coal mines and been involved in financing and building two ethanol plants.

In each case the developmental project was affected by Congressional tax policy. In the case of the coal mines, the equipment for mining was subject to investment tax credit and accelerated depreciation. The coal, itself, was subject to a cost depletion allowance as well as having the royalties paid to land owners treated as capital gains. Each of these tax policies reduced the final cost of the coal and increased the number of financing sources possible for a small developer.

For the two ethanol plants, investment tax credit was available for the majority of equipment, and a special energy investment tax credit was available for producing biomass fuels from renewable resources. In addition, ethanol blends pay a lower federal motor fuel excise tax than do all hydrocarbon blends and in numerous states, ethanol blends pay a lower state excise tax. Our ethanol facilities could never have been built without the favorable excise tax treatment and no future plants will be constructed unless the excise tax incentive, or a substitute such as the blender tax credit, is extended.

Of course the crucial policy question for Congress is to determine whether these incentives are expensive and wasteful, as the Wall Street Journal would have us all believe, or whether the rural economic development, the reduction in foreign oil consumption, the dramatic savings in pollution abatement costs (and therefore health costs) and the reduced subsidies directly to farmers mean that these incentives were profitable for the nation. In the case of our ethanol plant in Portales, New Mexico, the answer is very clear and very straight-forward. The ethanol plant repays the tax exemption "costs" many times over in its direct cash benefits to the region.

The savings are the amounts that an independent university study determined had been received by consumers or by suppliers in measurable incremental cash

benefits. Let me enumerate some of the ways that the federal incentive is repaid from that particular plant. This analysis has nothing to do with multiplier effect, it has nothing to do with middle east defense costs, health costs, or any of the other costs that would be appropriate for the federal government to review, but only the direct cash benefits measurable in New Mexico.

We pay six cents less federal excise tax for each gallon of ethanol blend we sell. The study conducted showed that higher grain prices provided nearly two cents per blended ethanol gallon of extra profit for local farmers. Local vendors ended up with an additional penny per gallon, the utilities in the area made a penny and a quarter of incremental income. The transportation and vendor purchases ended up with an additional penny of income. Direct payroll was almost two cents per gallon, for a total of over six cents per gallon direct benefit from local expenditures. These cash benefits fully pay the six cent federal cost without taking into account the benefit to the federal government of not subsidizing those farmers.

In addition, over twelve and a half cents per gallon of additional octane benefit was provided to consumers and not captured by the producer. Local dairies and feedlots gained over three cents per gallon from lower costs of producing meat and milk by using our by-product. That's a savings to consumers of these new ethanol plant products of over sixteen cents per gallon — almost three times the federal incentive.

Net - net the study showed that nearly four times the federal incentive was provided in direct, marginal income benefit to consumers and suppliers.

With the importance of clean air and the costs of clean air, it is appropriate to also look carefully at the ethanol incentive strictly from the standpoint of its ability to reduce pollution. What one discovers is that the federal ethanol incentive is also more than paid for just by the reduced air pollution caused by this clean burning, high octane fuel. In high altitude cities such as Denver and Albuquerque, that benefit is largely for carbon monoxide poisons. To reduce a ton of carbon monoxide by inspection and maintenance techniques it costs approximately $600 per ton of carbon monoxide reduced. It only costs $300 per ton if the full federal incentive is counted against ethanol's ability to reduce carbon monoxide pollution.

In Chicago, the benefits of ethanol are even more startling because it is capable not only of reducing carbon monoxide poisoning but also in reducing ozone dramatically. For instance, when ethanol is properly blended, it replaces aromatics such as benzene, toluene and xylene and it can reduce ozone formation by over ten percent.

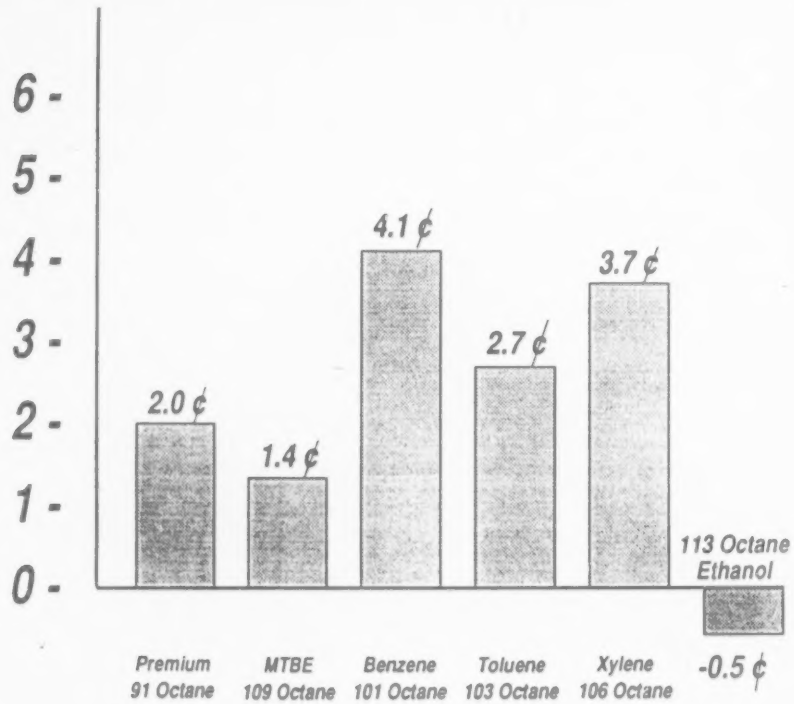
Ethanol is a very clear case where the federal government has provided an incentive that has created production that benefits rural communities through economic development and cities by reducing their air pollution. However, the link between ethanol production benefits is not as direct as might be most efficient. For instance, when a gallon of ethanol is burnt in the wide-open spaces of New Mexico, or Nebraska, or Illinois, consumers receive the benefit of higher octane and a better driving car, but the pollution benefits are not directed to their highest and best use.

Ethanol is a real success story of a new product being encouraged by tax incentives to benefit society in a very broad and meaningful way. However, ethanol is constantly under attack for these incentives and, in fact, many potential users of ethanol claim that they will not use the product because "it's subsidized" and at any moment the subsidies could go away.

This brings us to the heart of the problem of tax policy being harnessed to improve the environment. "Command and Control" regulations can be targeted to have their maximum effect in areas of maximum need. Tax benefits by their nature are more broadly applied and often cannot focus as specifically on a geographic area. However, our policy choices in the environmental area are enormously difficult and even regulations are often not targeted. For instance, Congress causes all automobiles to meet very severe standards of tailpipe emissions in an effort to ensure that the cars that will be sold in

highly-polluted areas will be as clean as possible. Those tailpipe standards are essentially a tax on all new car purchases. This is a very expensive solution to localized problems, but there is basically no other alternative.

Since tax policy has been beneficial in starting the ethanol industry, how come ten years later the industry still needs those tax benefits to encourage further plant development? As the study showed, most of the federal and state incentives given to ethanol are captured by others, or wasted by the inefficiencies of the distribution controlled by those who manufacture and produce all-hydrocarbon fuels. Ethanol is excluded from pipelines, oftentimes excluded from terminals, and therefore required to be railed or trucked to markets rather than be shipped by the most environmentally secure and the least cost transportation methods. Even so, as the following chart shows, ethanol is the cheapest octane enhancer available today.



So, why isn't ethanol used by all fuel manufacturers? Because ethanol takes market share from those established fuel manufacturers. Most major oil companies do not provide incentives to management based upon the profitability of the product they sell. Thus a regional retail manager is insensitive to ethanol's higher value because he makes nothing off of it. A refinery manager is a direct enemy because every gallon of ethanol replaces one gallon of his refined product and therefore reduces his incentives. Thus, ethanol has been bludgeoned by anti-ethanol whisper campaigns and has been attacked by means both direct and indirect — legal and illegal. Unfortunately, the tax code cannot provide a level playing field when competitors control distibution channels and decide to use their clout against a competitor to their fuels.

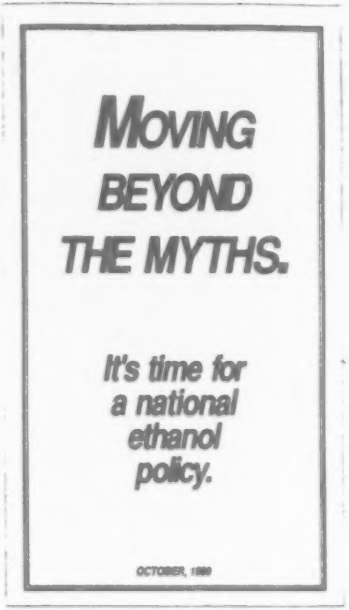
Is there a better way for the tax code to be used to improve the environment? Yes, I think so.

If tax policy makers would aggressively tax the polluter, supply and demand would create substantial competition for substitutes for the harmful products. For instance, if the major contributors to ozone (benzene, toluene and xylene and the olefins and diolefins) and carbon monoxide were to be taxed -- even a part of their health and environmental costs -- competition would reduce their use in gasolines and provide a wealth of innovative solutions. I recognize that taxing presently established business is harder to enact than giving an incentive to new ideas or products, but the effort would be worth it.

I encourage your Committee to look hard at fair and flexible ways to include the costs of environmental degradation into the products whose production or consumption causes that degredation. Having product costs truly reflect the costs to society will allow the enormous power of the free market to work and is the only way to ensure fair competition.

I have attached copies of the university study and of a detailed presentation on ethanol that may be of interest to you.

Thank you for your attention. I will be happy to answer any questions.



1979 Myths

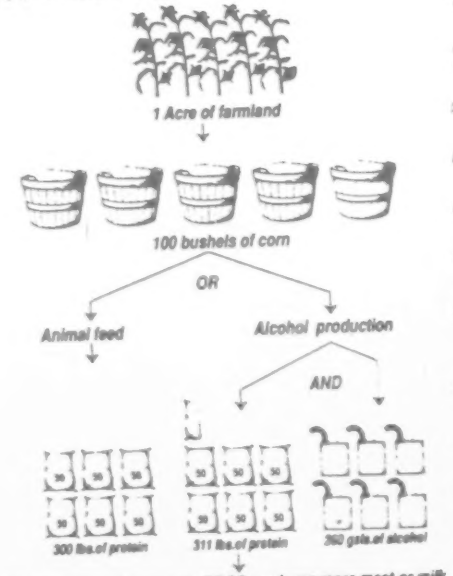
- "Ethanol converts scarce food to fuel."
- "Ethanol's not energy efficient."
- "Your car won't like it."
- "Cars don't need more octane."
- "Ethanol can't go in pipelines."
- "Cleaner cars + I/M = clean air by 1987."
- "Ethanol creates ozone."
- "Gasoline's all the same."
- "ETHANOL'S NOT ECONOMIC."

1979 Myth: "Converts scarce food to fuel."

1989 Reality:

- World shortage is of protein, not grain carbohydrates.
- Ethanol production increases protein.
- Ethanol production increases bypass protein dramatically.

Food vs. Fuel



High Bypass protein means DDGS produces more meat or milk.

1979 Myth: "Not energy efficient."

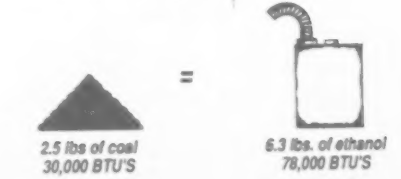
1989 Reality:

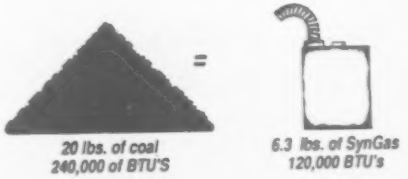
- Ethanol is energy efficient.
- 10 years of technical progress.
- Greater heat efficiencies.
- More rapid fermentations.
- Painfully acquired engineering expertise.
- Transferable operations techniques.
- Small plants can be efficient.
- Energy Fuels Dev. Corp. uses 39,000 BTU's to produce 78,000 BTU's of ethanol.

It's actually better than that:

Ethanol is the SYNFUEL of today.

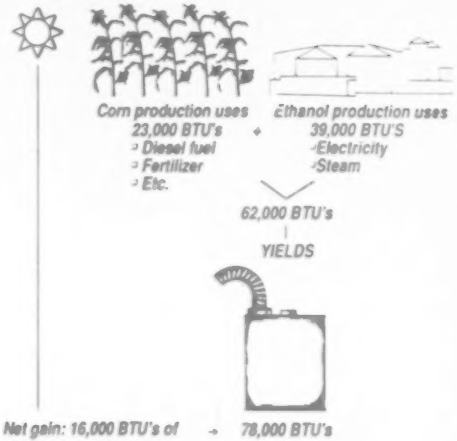
- Ethanol is the most efficient way to convert coal or natural gas to liquid transportation fuel.





In fact, it's even better than <u>that</u>:

Ethanol is the only SOLAR liquid transportation fuel.



<u>Ethanol is the only fuel that CREATES usable energy.</u>

1979 Myth: "Your car won't like it."

1989 Reality:

- *All cars don't like toluene.*
- *All cars don't like gas residues and gums.*
- *PFI cars don't like olefins.*
- *BMW's don't like most detergents.*
- *Ethanol is cleaner than any high octane alternative.*
- *10 years and 600,000,000,000 miles of experience.*
- *Newest tests show ethanol performs better than gasoline.*

G.M. now <u>recommends</u> alcohol fuels.

1979 Myth: "Cars don't need more octane."

1989 Reality:

- *"Octane quality" of regular unleaded has declined.*
- *Higher mileage cars need more octane.*
- *Knock-sensor cars can benefit from higher octane.*
- *Fastest growing consumer segments are higher octane unleadeds even at substantial price premiums.*

1979 Myth: "Ethanol can't go in pipelines."

1989 Reality: Refiners control pipelines.

- *Still using 1950's sloppy housekeeping techniques.*
- *Contaminated water (hazardous waste) still in pipelines.*
- *Refiners won't allow ethanol in pipelines.*
- *Pipeline test shipments of alcohol all successful.*
  - *Williams Pipeline*
  - *ARCO*

Keeping ethanol out of pipelines provides a LARGE competitive advantage to petroleum refineries.

1979 Myth: "Cleaner cars + I/M = clean air by 1987."

1989 Reality:

- *Cleaner cars have made a big difference.*
- *I/M less effective than hoped.*
- *Cars not designed to handle high aromatic, high volatility gasoline.*
- *104,000,000 people live in non-attainment areas.*
- *Present predictions show little hope from only "cleaner cars + I/M."*

1979 Myth: "Ethanol creates ozone."

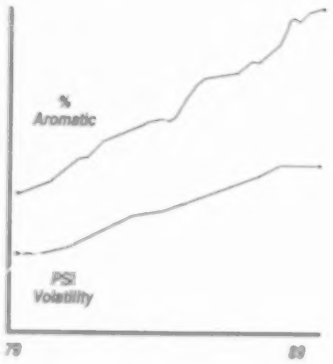
1989 Reality:

- *Ethanol replaces 10% of gasoline.*
- *Ethanol is less reactive than the gasoline it replaces.*
- *Ethanol <u>can</u> substitute for extremely reactive gasoline constituents like xylene, benzene, toluene, diolefins.*
- *Properly formulated gasoline with ethanol <u>reduces</u> ozone 12%-20%.*
- *Ethanol <u>reduces</u> "greenhouse" gases 10%-50%.*

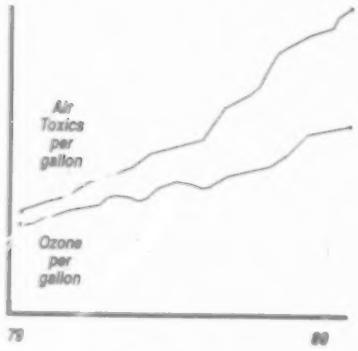
1979 Myth:"Gasoline's all the same."

1989 Reality:

- *Refiners have changed gasoline dramatically.*



So today, gasoline is much worse for our health:



1979 Myth:"ETHANOL'S NOT ECONOMIC."

1989 Reality:

Marketplace does not allow ethanol to get its:

- *Octane value.*
- *Clean air value.*
- *National security value.*
- *Balance of trade value.*
- *Renewable fuel value.*

Why doesn't ethanol receive its full value?

Is it surprising the largest industry in the world would strongly resist losing 10% of its high profit sales?

The measure of the oil companies' market and political strength is the difference between ethanol's true value and its current market price.

WHAT'S WRONG?

Market prices tell economic truth when:

- *There are many buyers and sellers.*
- *Buyers and sellers have equal power.*
- *Standardized product.*
- *No externalities.*

Gasoline/Ethanol prices lie, because:

- *Few buyers have enormous power*
  - *Own refineries*
  - *Own pipelines*
  - *Own retail stations*
  - *Own brand identification*
- *Discriminatory labeling misleads.*
- *Pollution, national security ignored.*

To find the economic truth, you must compare apples to apples.

(Real national costs are full costs.)

New Domestic Gasoline (87 Octane)		PER GAL
New crude finding/production costs		$ .42- 1.02
New refinery cost		.35
Revenues from other products		(.14 - .23)
MARKET COSTS		.63- 1.14
Ignored costs		
CO	.05 - .10	
HC	.03 - .07	
Particulates	.01 - .04	
Air toxics	? - ?	
Present value of domestic crude reserves	.09 - .21	
IGNORED COSTS		.18 - .42
TOTAL TRUE COSTS		.81 - 1.56

1989 Reality

- No new oil fields
- No new refineries

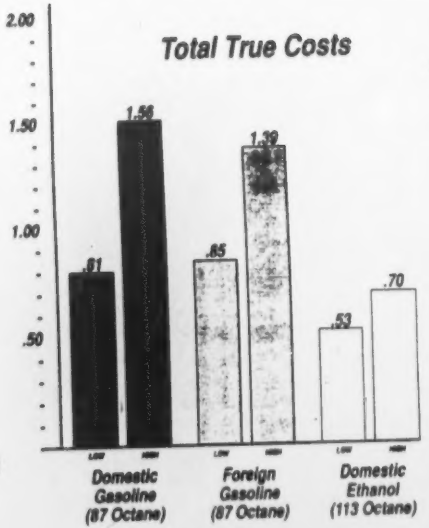
So, now supplies are imports.

New Foreign Gasoline (87 Octane)		PER GAL
Market price of foreign product		$ .60
Ignored costs		
Health costs	.09 - .21	
Present value of crude	.03 - .14	
Trade deficit cost	.01 - .04	
DOD "National Interest" cost	.12 - .40	
IGNORED COSTS		.25 - .79
TOTAL TRUE COSTS		.85- 1.39

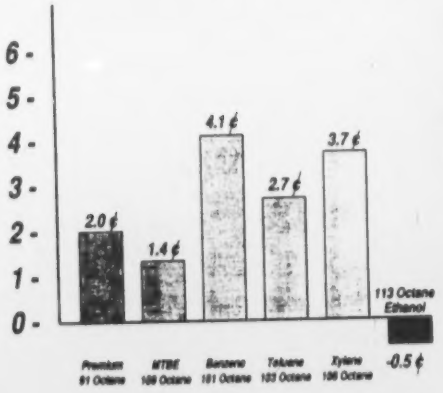
New Domestic Ethanol (113 Octane)		PER GAL
Corn cost		$ .62 - 1.04
New plant cost		.75 - .88
Revenue from other products		(.36 - .79)
MARKET COSTS		1.01 - 1.13
Ignored costs/benefits (blended gal. basis)		
CO	(.60 - 1.10)	
HC	.20 - .90	
Particulates	(.10 - .30)	
Air toxics	? - ?	
Present value of fossil energy needed to produce corn and ethanol	.02 -.07	
IGNORED COSTS (BENEFITS)		(.48 - .43)
TOTAL TRUE COSTS		.53 - .70

So, apples to apples, a gallon of 87-octane foreign gasoline actually costs society <u>up to 25%</u> more than a gallon of 113-octane domestic ethanol.

And these economics don't include ethanol's increased rural jobs, reduced farm program costs, and reduced medical costs.



But even this does not account for ethanol's 26 additional octane numbers. What's octane worth?



Ethanol's octane is worth between $.49 and $1.19/gal. more than it receives.

Is ethanol economic?

- **Ethanol's true production cost is the same or less than either domestic or foreign gasoline.**
- **Ethanol provides $ .49- $ 1.19 of additional value to motorists in octane.**
- **Regulatory Relief Task Force showed ethanol more than offset its $ .60 incentive by reduced farm program expenditures.**

ETHANOL

- *is economic.*
- *is good for clean air.*
- *is good for farmers.*
- *is good for cars.*
- *is good for energy security.*
- *and is good public policy.*

But today, ethanol still can't go head-to-head with the largest industry in the world.

What should public policy be when a marketplace is so severely distorted?

- *Mandate use.*

OR

- *Level the playing field.*

Mr. GIBBONS. Well, let us go to Mr. Lewis.

STATEMENT OF RAYMOND A. LEWIS, PRESIDENT, AMERICAN METHANOL INSTITUTE [AMI]

Mr. LEWIS. Thank you, Mr. Chairman.

AMI greatly appreciates the opportunity to testify on long-term environmental strategy, particular the tax issues relating to alternative fuels.

Methanol production is an important domestic industry, and methanol is a major component of our Nation's clean fuel programs. Methanol is a clean burning, abundant fuel with enormous promise for advancing our environmental and energy goals.

Over one-fourth of our production goes to produce MTBE. Without Government subsidy it has become a crucial clean air and energy security fuel that is leading the way toward the future. It is the major clean air component of EC1, the reformulated gasoline developed for the California market.

Methanol is directly being used to fuel automobiles and buses cleanly. Methanol fuels have the best potential for widespread market acceptance into the general vehicle population and is crucial to the ultimate objective of cleaning up our air.

Methanol is an important domestic fuel with 75 percent of our needs produced domestically. Domestic growth will continue, provided methanol and MTBE are allowed to compete on a level playing field. There is obviously a difference in our definition of a level playing field. We believe that environmental goals can be met while preserving a level playing field for all alternative fuels.

I will summarize the alternative fuel tax policy suggestions from our written testimony. No. 1, we preserve the discipline and advantages of marketplace solutions wherever possible. This principle should apply for fuel additives as well as for vehicles specifically designed to run on clean fuels. Each fuel should compete on its own merits and each must pay its fair share to maintain our roads.

This committee is all too aware that the ethanol blends already are pulling one-half billion dollars out of the highway trust fund each year. Yet ethanol supporters are seeking to expand and extend this enormous subsidy.

No. 2, if Federal support is necessary to encourage the use of clean fuels, it is essential that we carefully coordinate all Federal, State, and local programs. An example is the pressure in clean air amendments to provide at least 50 percent of the fuel additive market for ethanol. No rational policy would include a mandate on top of a subsidy.

The Federal tax subsidy for ethanol is large and expensive, despite the fact that the cost of ethanol production has actually decreased some 50 percent since the subsidy was passed. On top of the 63-cent Federal subsidy, several States have allowed additional 20 to 30 cents per gallon.

Added to this is a valuable environmental break, allowing gasohol blends to have higher volatility emissions than other fuels. Topping this inequity off are farm programs that have allowed ethanol producers access to cheap corn from surplus Government stockpiles.

And now Congress is being asked to mandate a 3.1-percent option in the gasoline. Such a provision would give at least half the market to ethanol while requiring unsubsidized MTBE to pay the ethanol blenders for the rights to remain in the marketplace.

The coordination of benefits with an overall examination of cost is long overdue. The U.S. Department of Agriculture concluded that it would be much more efficient to subsidize farm production directly if farm subsidy is truly the goal.

A similar example cited in our written testimony occurs with compressed natural gas.

Third, we would limit any subsidy to overcoming actual hurdles incurred. When Congress established the temporary, 60-cent-per-gallon subsidy for alcohol fuels, it was to overcome marketplace disadvantages of ethanol.

Now the Treasury Department has attempted to administratively expand the ethanol subsidy to derivative products that do not have these hurdles to overcome such as MTBE. It is inappropriate to subsidize ethanol for ETBE as though it had the same hurdles as ethanol.

It is appropriate, if other subsidies are determined to be necessary, to establish relatively short sunset periods and a phasedown mechanism within the subsidy. This encourages the recipient to seek efficient operations to be competitive when the subsidy expires. Also it is economically sound policy to phase down any alternative fuel subsidy where the needs decrease such as with increasing crude oil prices.

And fourth, if new subsidies are found to be justified, limit those subsidies to levels preserving the viability of competitive unsubsidized alternatives.

Last, we believe it is important that all fuels pay their fair share of the highway trust fund. A fair mechanism, which has already been applied to methanol, is to tax on an energy content basis. CNG pays no taxes and ethanol receives an actual credit.

In conclusion, methanol fuel products are already performing major functions in advancing our environmental goals efficiently without subsidy. In examining tax policy toward alternative fuels, we believe that the principles set out above should be applied with this in mind. The American Methanol Institute stands ready to work with the committee toward achieving these goals.

Thank you, Mr. Chairman.

[The statement of Mr. Lewis follows:]

STATEMENT OF
RAYMOND A. LEWIS ON BEHALF OF
THE AMERICAN METHANOL INSTITUTE
BEFORE THE COMMITTEE ON WAYS AND MEANS
U.S. HOUSE OF REPRESENTATIVES
RELATING TO LONG-TERM STRATEGY ON THE ENVIRONMENT
AND IN PARTICULAR STRATEGY RELATING TO ALTERNATIVE FUELS

The American Methanol Institute (AMI) greatly appreciates the opportunity to testify today on long-term strategy relating to the environment, and in particular the strategic issues relating to alternative fuels. Methanol production is an important domestic industry, and methanol is a major component of the Nation's clean fuel programs. AMI has been formed to represent companies that are now supplying the majority of the U.S. methanol requirements for both fuel and chemical applications.

Methanol is a clean-burning, abundant fuel with enormous promise for advancing both the Nation's environmental and energy goals. Already the methanol industry is performing an important role in producing clean fuels, without government subsidy. Our industry is now a major participant in the fuel market because over one-fourth of the methanol currently marketed in the United States is used to manufacture the most widely-accepted clean-fuel additive today, MTBE (methyl tertiary butyl ether).

MTBE is today providing major environmental and energy security benefits for our Nation.

-- MTBE burns cleanly, adding oxygen to the fuel supply. This leads to lower carbon monoxide emissions.

-- MTBE adds octane to gasoline in a way that is environmentally sound. It is used to replace lead and other sources of octane that are dangerous environmentally, including octane enhancers that produce benzene and other toxic emissions.

-- MTBE helps to reduce evaporative emissions from gasoline and reduce ozone, which, together with the reduction in carbon monoxide that MTBE accomplishes, reduces urban smog and global warming.

-- MTBE saves gasoline and enhances the Nation's energy security. The methanol used to produce MTBE comes from natural gas and can be produced from numerous non-petroleum sources. New capacity is even being built to consume the polluting emissions from other manufacturing plants and convert them into clean burning methanol.

-- Methanol production for MTBE and other applications is a major domestic industry with substantial growth potential.

-- MTBE is transportable in pipelines and is fully compatible with gasoline distribution systems.

-- MTBE has become a crucial clean air and energy security product without government subsidy.

MTBE is not only important today, but it and other methanol products are leading the way toward the cleaner fuels of the future. MTBE is the major clean-air component of "EC-1", the precedent-setting reformulated gasoline developed for the California market by ARCO Petroleum Company. Methanol is also being used successfully to fuel busses, achieving greatly reduced pollution, and in other innovative diesel applications. After extensive study of clean fuels, the California Advisory Board on Air Quality and Fuels recently concluded that methanol fuels are able to achieve substantial air quality benefits and that of all

the alternative fuels, methanol fuels have the best potential for widespread market acceptance into the general vehicle population.[1]

The methanol industry has achieved these accomplishments by investing capital, and by devoting the work and resources necessary for MTBE to develop into a major clean-air product. In 1989, some 500 million gallons of methanol were used to produce MTBE. This market is expected to continue to grow and serve the Nation's environmental needs -- as long as government policies do not stifle that growth. It is a market crucial to the domestic methanol industry. And the domestic methanol industry is crucial to the ultimate objective of cleaning up our Nation's transportation fuels.

Methanol is an important domestic product. The United States is the largest producer and consumer of methanol in the world. Some 75 percent of the methanol consumed in the United States is produced domestically, and an even greater percentage of the MTBE produced in the United States is produced from domestic methanol. Moreover, domestic methanol production relative to consumption is growing and the proportion of imports, small to begin with, has declined. The growth of the domestic methanol industry should continue based on demand for MTBE and other methanol-fuel products, with the implementation of newly developed technology for smaller-sized, modular production plants -- provided that methanol and MTBE are allowed to compete on a level playing field.

We believe that environmental goals can be met while preserving a level playing field for methanol and other alternative fuels, and we set out in the remainder of this testimony our recommendations on how this may be accomplished.

Recommended principles for alternative fuels strategy. We believe that sound strategy for alternative fuels policy would include a careful consideration of the following factors:

1. Preserve the discipline and advantages of marketplace solutions whenever possible. Methanol, through MTBE, has already demonstrated its superior performance both as an economic octane component for gasoline and as a better way to formulate gasoline to both lower ozone and reduce carbon monoxide. The benefits from MTBE have occurred free from subsidy, under the stimulus of economic pressure and environmental considerations. Competition among clean fuel additives should be carefully preserved. It maximizes efficiency and provides the greatest possible incentives for innovation and cost-reduction.

The same principles should apply as we move beyond gasoline additives to consider vehicles specially designed to run on predominantly clean alternative fuels. If the use of these clean-burning alternate fuels is to expand beyond the limited demonstration phase, each fuel should be expected to compete on its own merits, and each fuel must pay its fair share to maintain our Nation's roads. This Committee is all too aware that ethanol blends already are pulling half a billion dollars out of the Highway Trust Fund each year. Yet ethanol supporters are seeking to extend and expand this enormous subsidy.

Our environment will not benefit from such tax expenditures, nor will it benefit from heavily subsidized short-term demonstration programs that cannot ultimately be maintained through broad-based commercial applications. Moreover, it is fast becoming clear that our Nation's transportation system needs more funds, not less. With these goals in mind, we should evaluate the various clean fuel options based on sound long-term policy in which each fuel stands on its own to the maximum extent possible.

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[1] California Advisory Board on Air Quality and Fuels, Report to the California Legislature (October 1989).

2. If some Federal support is thought to be necessary to encourage the use of additional clean fuels, it is essential that we carefully coordinate all Federal, State and local programs. A good example of the need to coordinate policies is the recent pressure in the Clean Air Act amendments, particularly on the Senate side, to increase the oxygen content of gasoline to 3.1 percent. Ordinarily this would not have been given serious consideration because, at these levels, evidence of further environmental benefit is speculative at best. However, a 3.1 percent oxygen mandate would greatly benefit the ethanol industry, by requiring in effect that ethanol be blended into gasoline without regard to the ethanol's cost. In considering this mandate provision, the ethanol industry has probably hoped that the Congress would not coordinate such a provision with the tax subsidy, because no rational policy would include a mandate on top of a subsidy.

The federal tax subsidy has been large and costly. It started at 40 cents per gallon in 1978 and rose to 50 cents in 1982, then 60 cents in 1984, where it is scheduled to remain until its expiration in 1992 (for the tax credit) and 1993 (for the excise tax reduction) -- despite the fact that the cost of ethanol production has now actually decreased by some 50 percent. Moreover, when accounting for the 5 percent denaturant that also qualifies for tax subsidy, the ethanol subsidy is actually some 63 cents per gallon. In addition, several States have allowed additional subsidy of 20 to 30 cents per gallon.

Added to this is an environmental break allowing gasohol blends to have higher volatile emissions than other fuels (a one psi RVP exemption), a break that has become much more valuable as the base gasoline volatility has been forced lower for environmental reasons.

Topping this off are farm programs that have allowed ethanol producers to receive distributions of much of their corn raw material from surplus government stockpiles, and now-discredited energy subsidy programs that have subsidized construction of uneconomic ethanol facilities with low interest or government guaranteed loans.

And now Congress is being asked to mandate 3.1 percent oxygen in gasoline for several large cities and provide a trading program for oxygen credits. The net result of such a program would be to guarantee at least half this market to the ethanol industry and to require the unsubsidized methanol derivative, MTBE, actually to purchase oxygen rights to remain in the market by giving even further subsidy to the ethanol producers. Obviously, a coordination of benefits, with an overall examination of costs, is long overdue. And even where benefits may be determined to be appropriate, they should be carefully crafted to avoid having unnecessary or harmful side effects. For example, U.S.D.A. concluded, after thoroughly studying the issue, that it would be much more efficient and economical to subsidize farm production directly, if farm subsidy is the goal, rather than to encourage the continued uneconomic production of ethanol through ethanol tax subsidies.

A similar example occurs with compressed natural gas (CNG), which has the potential of being another clean burning fuel for selected fleet markets. Supporters claim the cost is lower per mile driven than gasoline or methanol. However, the comparison is often distorted by assuming no Federal excise tax, rate-basing of the expensive compressors and distribution system so that the homeowners absorb the extra cost, investment tax credits for the expensive automobile conversions, consumer acceptance of the reduced range, higher vehicle weight and poorer acceleration, and no requirement to limit the emissions of methane, a potent global warming gas.

We should be very careful to explore the full implications for these options, taking into account the full range of non-tax programs and issues that apply, before we provide further tax support.

3. Limit any subsidy to overcoming actual hurdles. When a subsidy is under consideration, we believe it is important to examine carefully and quantify wherever possible the hurdles that the subsidy is intended to overcome. By doing so, the minimum amount of subsidy can be designed to overcome those hurdles.

For example, when Congress established the temporary 60 cent-per-gallon subsidy for qualifying alcohol fuels, it had in mind both then-current ethanol production costs and certain marketplace disadvantages of ethanol as a fuel blendstock -- such as its high volatility in gasoline and its incompatibility with pipeline distribution systems. A high per-gallon subsidy was believed necessary to overcome these hurdles.

The Treasury Department, however, is now attempting to apply that subsidy to derivative products made from ethanol that do not have these hurdles to overcome, such as ETBE (ethyl tertiary butyl ether). ETBE, which is an ether and not an alcohol, is not high in volatility and should be able to travel in pipelines compatibly with gasoline. In light of these properties, there is no reason to subsidize ethanol for ETBE, or to provide other benefits, as though it had the same hurdles to overcome as ethanol blended into gasohol. We have pointed out to Treasury that the gross over-subsidization of ETBE that would result from Treasury's interpretation is strong confirmation that the Congress had no such subsidy of ETBE in mind. Our testimony before this Committee on February 1, 1990, sets out in considerably greater detail our position on why an ETBE subsidy is unauthorized by existing law and unsound as a matter of policy. For purposes of this Committee's present examination of environmental issues, we cite the Treasury ETBE interpretation both as an unauthorized administrative action that ought to be overturned, and as an example of subsidy policy that ignores the basic principle of gearing subsidies to need.

Similarly, we believe it is generally appropriate when a subsidy is determined to be necessary to establish relatively short sunset periods. Sunset periods that are short permit reexamination of the need for subsidy and allow the Congress to re-validate and, as appropriate, modify any subsidy that may be renewed. They also permit the Congress to take into account technological and other changes that may occur in this field with great speed. For example, one hurdle that ethanol had to overcome initially was the reluctance of automobile manufacturers to extend warranty protection to gasohol, but that hurdle has been virtually eliminated by now. Short sunset periods also facilitate coordination with other government programs, such as agricultural programs.

Finally, we believe it is generally sound policy to phase down the level of a subsidy during the period when it is in effect. This encourages the subsidy recipient to seek out more efficient methods of operation. It also tends to reflect cost decreases over time. For example, an ethanol representative testified recently that the costs of producing ethanol have decreased by 50 percent over the last eight years -- yet the subsidy, which was locked in for a considerable period at a fixed rate, has not shrunk to reflect the decreased need. In addition, the economics of alternative fuels tend to be driven in large measure by the price of crude oil; the higher the price of oil, the less disadvantaged is the alternative fuel. For this reason, we believe that it is generally sound to phase out any alternative fuel subsidy as the price of crude oil rises. This is a pattern already utilized in Section 29 for the fuels covered by that provision, and it would apply equally to the types of alternative fuels considered in this testimony.

4. If subsidies are found to be justified in a particular case, limit subsidy levels so as to preserve the viability of competitive unsubsidized alternatives. In any case in which the Congress may determine that a subsidy for an alternative fuel is appropriate, we urge that the effect on competing alternative fuels be carefully taken into account. To use the ETBE example, one reason why the Treasury position that existing law subsidizes ETBE cannot stand scrutiny is that Congress had no intention of using a subsidy to duplicate what an unsubsidized alternative fuel was already accomplishing.

Similarly, if a program is designed to help all alternative fuels in a neutral manner, it is important to ensure that it actually does so and does not tilt unfairly in favor of particular fuels. In this regard, a recent proposal to provide a tax credit for property used in connection with certain alternative fuel vehicles would heavily favor compressed natural gas (CNG), as CNG requires much more credit-eligible property than other alternative fuels under the proposal as presently drafted. We have set out in detail why this is so in testimony on this proposal before the Subcommittee on Select Revenue Measures.

Lastly, we believe it is important that all fuels pay their fair share of the Highway Trust Fund tax. A fair mechanism, which has already been made applicable to methanol, is to apply the tax on an energy-content basis. At the present time, however, the tax as drafted applies only to liquids and not to gaseous fuels such as CNG, operating in effect as an undeclared subsidy for CNG. If vehicles powered by CNG are to become users of the highways, there is every reason for those vehicles to begin paying their share of this important user tax.

In conclusion, methanol fuel products can perform and are already performing major functions in advancing the Nation's environmental goals, efficiently and without subsidy. In examining tax policy toward alternative fuels, we believe that methanol's accomplishments and advantages are worthy of recognition, and that the principles set out above should be applied with this in mind. The American Methanol Institute stands ready to work with the Committee toward achieving these goals.

March 14, 1990

Mr. GIBBONS. Mr. Henneke, he seems to disagree with you.

Mr. HENNEKE. I think there is actually a lot more agreement on the issue of a 3.1-percent oxygen content mandate. He has got his facts wrong. The Du Pont waiver has a 3.7; it is a methanol blend. And perhaps he has forgotten that MTBE, MTBE has been offered a 3-percent oxygen content by EPA.

But he does disagree. It is perfectly normal in front of these committees, it seems to me, for competing interests to compete.

Mr. LEWIS. I think that that is our bid because we acquired the Du Pont waiver. We applied for it. We did the development work, and picked up after Du Pont had carried forward on that waiver. We applied and did the technical work to get there with the OFA.

And indeed with the volatility restrictions on gasoline, the extra volatility which comes from blending alcohols directly, the Du Pont waiver does not get a 1-pound Reidvapor pressure exemption, as does ethanol.

Therefore, as the gasoline volatility goes down, that fuel becomes less and less competitive. And that causes major marketplace impediments to its use. It is true there are theoretical options that could compete. None of those are being used in any significant quantities commercially today.

Mr. GIBBONS. I wish I knew half as much about your subject as I ought to. I am interested in that. But let us go on.

Let us see, Mr. Rinebolt.

STATEMENT OF DAVID C. RINEBOLT, DIRECTOR OF RESEARCH, NATIONAL WOOD ENERGY ASSOCIATION

Mr. RINEBOLT. Mr. Chairman, I represent the National Wood Energy Association. The folks that I represent design and build the equipment for, do the project development, provide the fuel for biomass powerplants, not just wood-fired powerplants. We use feedstocks as varied as waste wood, sawdust, animal manure, sewage treatment effluent, agricultural residues, vineyard prunings, sugar cane bagasse. Anything that is an organic that can be turned into energy, we convert.

We burn it sometimes, we gasify it sometimes, we digest it sometimes. We have a wide variety of technologies, a wide variety of feedstocks.

We have been pretty successful in the last 10 years. In the last decade, we doubled our contribution to this Nation's energy supply, going to about 5 percent of primary energy. We have built the equivalent of 7 to 10 nuclear powerplants that are fired by wood and agriculture residues. We have done it very quietly, but we have done it very effectively and in an environmentally sound manner.

Our industry early in this decade did take advantage of the business energy tax break which currently exists for solar, geothermal, and ocean thermal technologies. If the committee does consider reauthorizing that as a renewable credit, we would like to see biomass included.

We have also been able to take advantage of the producers' tax credit, which is laid out in greater detail in my testimony. If the

committee believes that stimulus for this type of energy is necessary, an expanded producers' tax credit would be a good way to go.

But there are really two ways to get at leveling the playing field in this ball game. You can either—one way or another you have got to internalize the cost of pollution for various energy sources.

We do not pollute very much. The only real pollution that comes from our plants is particulate emissions. And we are successful enough at cleaning them up that we can build plants in areas that are nonattainment for those emissions. So we are pretty good at this.

So you can either give us incentives so that we can compete with the existing fossil technologies or you can tax pollution and internalize the costs that way.

There have been several references today to the Clean Air Act reauthorization. And essentially what that bill is, and in particular the acid rain title of that bill, is an allocation of the costs associated with using those energy technologies. It is not exactly a perfect internalization of the cost because my tax bills are going to wind up paying for some of that somehow, and certainly it looks like there are going to be some advantages for renewables in that. By and large, when the cap on sulfur dioxide emissions kicks in the year 2000, and utilities are looking for more technologies, they are going to have to turn to biomass, to wind, and the other renewables. Because we do not release SO_2. It is very simple.

So we believe that pollution taxes are really the best way for this committee to go at internalizing the costs of various energy technologies. If you emit sulfur dioxide, you should pay for it. If you emit nitrous oxide, you should pay for it. If you emit hydrocarbons, you should pay for it.

We are willing to go toe-to-toe with any energy technology existing today, that is commercial today. We think we can compete with the best of them, and we will win if those pollution costs are internalized. That is simply my statement, sir.

[The statement of Mr. Rinebolt follows:]

STATEMENT OF DAVID C. RINEBOLT, NATIONAL WOOD ENERGY ASSOCIATION

Biomass energy, of which wood energy is the largest component, currently provides 5 percent of the total energy used in the United States. Total energy generation from all renewable technologies accounts for 9 - 10 percent of the primary energy supply of this country, exceeding the amount of electricity generated by nuclear technologies. Energy is the single largest use of wood in this country, accounting for 160 million dry tons per year. Wood energy is currently used in all 50 states and produces electricity in 42 states.

The vast majority of the energy generated from biomass comes through the application of direct combustion technologies, and it is in this area that the greatest growth has occured. The amount of electricity generated from biomass feedstocks has increased from less than 200 megawatts at the beginning of the decade to over 7,300 megawatts at present. Similar growth is evident in the use of biomass for process steam and process heat applications, as well as in space heating applications.

The energy potential of biomass is staggering, estimated at approximately 42 quadrillion BTU's - or over half of the total energy consumed in the United States - by the U. S. Department of Energy (US/DOE). Moreover, biomass utilization is not limited to direct combustion techniques. Current research and development programs within US/DOE are developing the technologies necessary to convert biomass to liquid and gaseous fuels.

Biomass is the only renewable feedstock capable of replacing gasoline and other fuels in the transportation sector. It is also the only feedstock that can be converted into gaseous fuel.

Given that our country is continuing to increase its dependence on imported fossil fuels, and that the size of domestic petroleum and natural gas reserves is continuing to dwindle, it is imperative that the federal government consider a variety of options to stimulate continued growth in the biomass energy. Recent trends, however, indicate that government is turning it's back on the technologies on which our future energy security and economic health hinge.

EXISTING PROVISIONS IN THE TAX CODE AFFECTING BIOMASS ENERGY

Existing incentives for the production of energy from biomass resources can be divided into two basic categories: grandfathered projects subject to the expired biomass business energy tax credit and biogasification facilities which qualify for the production tax credit; and, rapid depreciation on certain types of biomass conversion equipment.

The biomass business energy tax credit is analogous to the existing solar and geothermal business energy tax credits, due to expire this September. Some projects which qualify for this credit under grandfather provisions are still anticipated. Additionally, some facilities which convert biomass to a natural gas substitute are also eligible for the nonconventional fuel production tax credit which granted for the displacement of oil, so long as the facility is place in service by the end of 1990. NWEA supports a continuation of these provisions.

Rapid depreciation is available to facilities which qualify as small power producers under Federal Energy Regulatory Commission standards and use biomass as fuel. NWEA also supports continuation of this provision.

ENVIRONMENTAL AND ECONOMIC BENEFITS OF BIOMASS ENERGY

Because of the recently recognized societal costs associated with pollution, and the greater reflection of these costs in a businesses bottom line, we have seen the development of technologies that are driven by the need to minimize pollution; by recycling water used in manufacturing processes, by minimizing the need for chemicals and solvents in the industrial sector, and by the increased recycling of manufactured materials themselves.

As the industry enters the 1990's a variety of trends and issues are working in favor of the increased utilization of biomass energy. Oil imports have once again surpassing 50% of our daily requirements, exposing the U.S. to the very dangers that brought about a renewed interest in renewable energy in the first place. Environmental opposition to the increased use of coal and nuclear energy and uncertain supplies of cheap natural gas make biomass and all renewable sources more appealing.

New technologies that can produce ethanol, methanol and gasoline from wood, coupled with short rotation forestry offer promise for the development of a sustainable domestic transportation fuel industry.

Concerns about greenhouse gas emissions, primarily CO2 and methane, are solidifying support from the environmental movement for the increased use of biomass energy. After all, biomass energy is the only energy producing technology that can actually decrease atmospheric CO2 levels, so long as forest stands are appropriately managed.

The solid waste disposal crisis also works in our favor. Of the 6,000 currently operating landfills, a full half will close by 1993. Separating clean wood waste from the municipal waste stream and using it for power will extend the life of landfills while providing valuable power for industrial expansion. The states of New York and Wisconsin are among the many looking to promote wood energy plants for this very reason.

States are also promoting the use of biomass energy for its economic development impacts. Arkansas has developed a plan to use wood energy cogenerators to provide power for a series of industrial parks. Maine's PUC supported local wood power over imported hydro partially because of the local economic impacts. And rural locales are supporting the construction of plants for the jobs they create not only running the plants but in the harvesting and processing of the wood feedstock.

With rational regulation, and modest governmental assistance, the wood energy industry can look for increased growth in the 1990's. There are still hurdles to overcome, but the potential of biomass energy is too great and the need for environmentally sound forms of energy is too strong for the country to ignore this vast resource.

TAX INCENTIVES FOR BIOMASS ENERGY

In the context of biomass, two existing credits offer opportunities - the energy tax credit and the producers (or nonconventional fuels) tax credit.

The two credits are fairly simple. The first is the 10% energy tax credit. This credit provides a tax credit equivalent to 10% of the facility's cost. This credit tracks the existing solar and geothermal credits. NWEA believes that, because biomass is a renewable resource with comparable environmental

benefits, it should be included in any extension of the business energy tax credit.

The second credit is exclusively biomass oriented and is known as the Non-Conventional Fuel Producer Credit (26 U.S.C. Sec. 29). The credit was originally provided for the production of fuels from the following non-conventional sources:

1. Oil from shale;
2. Oil from tar sands;
3. Natural gas from geopressured brine, coal seams, or Devonian shale;
4. Liquid, gaseous, or solid synthetic fuel (other than alcohol) from coal liquefaction or gasification facilities;
5. Gas from biomass (including wood);
6. Steam from solid agricultural by-products; and
7. Qualifying processed solid wood fuels.

The credit is nontaxable and nonrefundable. It is equal to $3.00 for the energy equivalent of a barrel of oil, or $3.00 per 5.8 million Btus. The credit also varies with the price of oil. In 1988 the credit was worth $4.63 per barrel of oil or 5.6 million Btu.

The effective date for the credit varied with the sources of energy. Also, the credit required that the facilities producing the fuel be placed into service by a certain time; at that point the fuel produced by the facility qualified for the credit through 2000. The agricultural by-products and qualifying processed wood fuels were the most limited and the first to expire. A facility qualify under the gasification credit must be in service by the end of 1990.

NWEA believes that the existing producers tax credit should be used as a model for a new credit based on the level of Btu production from facilities using biomass feedstocks. There are a couple advantages with this approach. It reflects the cost of oil, thus promoting indigenous fuels during periods of high price for imports and is responsive to energy security concerns. The credit also rewards technologies that actually produce fuel/energy; if the process doesn't work, the credit is not created. Finally, the credit is flexible; it would affect liquid fuels from biomass feedstocks, grain dryers using agricultural residue rather than propane, process steam and heat, and electricity.

The credit should be valued at $3.00 per 5.6 million Btu of output as it is currently; declining when the price of oil goes down and increasing as the price rises. NWEA would also recommend that there be maximum credit of $5 - $6.00 per barrel of oil equivalent.

The original Non-Conventional Fuel Producer Credit was too early for the technology. Now the technology is available and the credit could be utilized. Given the positive impact of sustainable biomass energy, the credit can be characterized as the "Greenhouse Credit," since it encourages CO2 neutral biomass-based technologies. NWEA recommends that the credit attach to facilities or equipment that runs on biomass fuels and is placed into service between now and 1996, and can be taken for ten to twenty years after being placed in service depending on the facility/equipment.

POLLUTION TAXES - THE ENVIRONMENTAL SIN TAX

A plan for controlling the deficit recently released by the Chairman of this Committee includes a call for the consideration of pollution taxes as one possible source of

revenue to be used in balancing the federal budget. NWEA, inconjunction with other renewable energy trade groups has been analyzing the external costs associated with energy production which are not reflected in the market price of energy. From our vantage point, the Acid Rain debate within the Clean Air Act reauthorization is essentially a policy debate over the external costs of fossil fuel utilization and an allocation of the costs that result from SO2 and NOX emissions.

Approaches which factor the costs of pollution into the price of competing energy sources would go a long way towards leveling the playing field for technologies that are environmentally benign, such as biomass. For the wood energy industry, taxes of this type are as advantageous as tax incentives because it allows a more equal choice between alternatives. Incentives provide biomass with the opportunity to compete under conventional pricing schemes, while pollution taxes would create a new pricing scheme which more accurately reflects the costs of various energy technologies to society.

NWEA would caution the Committee, however, if it considers the adoption of a CO2 emissions tax. Biomass combustion releases CO2 into the environment at a level comparable to fossil fuels. However, because of the carbon cycle, so long as we are growing more biomass in the United States than is harvested, as we are currently, there is no net emission of CO2 from biomass. Moreover, since 90% of what we use as a feedstock is a waste product, it would deteriorate and release CO2 anyway. Biomass energy facilities merely hasten the process while wringing the energy from the waste.

CONCLUSION

Despite a regulatory system that is not prepared to deal with us and the benign neglect of the government, the biomass energy industry has continued to grow and often prosper. The loss of tax credits in 1986 and the decline of R&D funding by 90% since 1980 did not dampen the enthusiasm for biomass energy.

While drops in oil prices, and related drops in natural gas and coal prices, have lessened the incentive to switch to biomass fuels for price reasons, use of biomass fuels where low cost feedstock supplies are available have continued to climb. Increasing costs of waste disposal have also contributed to the use of biomass for energy.

Overall, biomass now accounts for 3.8 Quads of primary energy supply, or almost five percent of this nation's basic energy needs. That level is the equivalent of a doubling of the energy generated from biomass in the last ten years. Sufficient feedstock is available from timber residues, improved forest management and urban waste streams to permit a further doubling over the next decade.

The technologies to convert biomass to energy have also improved. Harvesting and handling systems are now better designed than they were ten years ago. Combustion systems are more efficient and less polluting. They are also more flexible. Plants that burn feedstocks as varied as cow manure, peat and vineyard prunings are now available. Gasification systems are now commercial on large scales. And ash disposal through landspreading is increasingly recognized as environmentally sound.

The biomass energy industry faces an uncertain future in the marketplace. Its strengths are known and documented, but current energy pricing mechanisms work against this and all non-fossil energy technologies. Tax incentives or pollution taxes can have a positive effect on the environment by putting environmentally sound technologies in a more competitive position. NWEA looks forward to working with this Committee as the analysis of these important issues continues.

Mr. GIBBONS. I was going to suggest to you that you might try to harness the biomass that is generated around this Hill.

Mr. RINEBOLT. We are really good with methane gas.

Mr. GIBBONS. How about hot air? That is what we wind up making. We have a lot of that around here.

Mr. Swisher.

STATEMENT OF RANDALL SWISHER, EXECUTIVE DIRECTOR, AMERICAN WIND ENERGY ASSOCIATION

Mr. SWISHER. Mr. Chairman, my name is Randall Swisher. I am executive director of the American Wind Energy Association, which, since 1974, has represented the wind industry. I am pleased to be with you here today to talk about one of my favorite subjects, the environment.

Let me briefly summarize, focusing on a few major points, No. 1 being the current status of wind energy technology.

A decade ago, this industry virtually did not exist, at least as far as providing any substantial amount of wind-generated electricity directly to electric utilities. Today there are about 15,000 wind turbines operating primarily in California and Hawaii, providing over 2 billion kilowatt hours of electricity, as the chart on page 2 of my statement makes clear.

The real story about the last decade, however, is the tremendous progress that has been made by wind technology both in terms of cost and performance. In 1981, the first year during which wind energy provided power directly to electric utilities at any significant scale, wind-generated electricity cost around 25 cents a kilowatt hour. Today wind energy is being generated as cheap as 5 cents a kilowatt hour at the most outstanding sites, but generally at a rate of about 7 or 8 cents a kilowatt hour.

In the early years of the technology, the early eighties, there were definitely problems technically. A lot of turbines did not function well. It is a tricky technology. It has taken a number of years to get on top of those problems.

One measure of that has been what we call availability factors. In 1981, the turbines in California were available to function only about 60 percent of the time. That means they were down just about as much as they were working.

For new turbines that have been introduced in California in the last few years, those turbines have been functioning at a rate of over 95 percent. So that the technology has worked out a lot of the bugs, many of the technical problems, and is on its way to maturity.

Another measure of the growth in the technology has been in the area of efficiency. Capacity factors, which are one of the measures of that, have gone from about 13 percent in 1985, to about 25 percent today for turbines that have been introduced in the last few years, to over 40 percent for the most efficient turbines at the most outstanding sites. So we have seen a steady growth in the performance in the industry.

Strangely enough, that is something a lot of people do not understand. There is a feeling that if wind turbines are not turning, they must not be working. The fact is wind is an intermittent resource.

The wind does not blow all the time. Eighty percent of the wind energy in California is generated between April and September. And it also varies on a daily basis, with most of the wind picking up early in the afternoon and proceeding into the evening. But both on a seasonal basis and on a daily basis, that tends to track the peak periods for the utility, and thus wind has a real capacity value to the utility.

In terms of renewable energy and the environment, the World Resources Institute has pointed out that by the middle of the next century, the world's economy is expected to quintuple. We cannot expect to support that level of economic activity based on the same kinds of technologies that we depend upon today. There has to be a basic change in direction. And it is clear that fundamental to that change is the most efficient use of today's energy sources and greatly increased use of clean, renewable sources of energy.

Wind, despite the progress that it has made in just a decade, is still somewhat more expensive than fossil fuels on a market basis primarily because of the huge subsidies to the conventional fuels. There are many costs that are not reflected in utility bills that consumers must pay one way or the other, including the environmental impact from the use of conventional fuels, and the health impact of the millions of tons of pollutants that we send into the air.

These billions of dollars of costs make a seemingly cheap source relatively expensive to society. Such social costs represent a huge subsidy to conventional fuels approximately equal to the market price that we pay in our utility bill.

There are two options: First, is to either decrease the subsidies to conventional fuels or have them pick up more of their costs for pollution; or second, to provide, as has been said many times, a level playing field for clean, renewable technologies so that they can compete more effectively.

The concept of pollution taxes is an excellent vehicle for achieving part of that. I was pleased to see pollution taxes included in the chairman's deficit plan. The concept of subsidies for nonrenewable fuels makes very little sense. Essentially what we are talking about is encouraging us to consume more of finite resources.

There are endless examples of these kinds of subsidies. One symbol is the outlays from the Department of Energy for specific technologies. Only 3.3 percent of the DOE technology-specific outlays goes to renewable energy.

Our international competitors are starting to waken to the potential of renewable technologies, including wind. In Europe, the Netherlands is currently providing a 45-percent subsidy to wind energy development. Germany is providing essentially the same level of subsidy, about 4.4 cents per kilowatt hour. They are using those subsidies to develop a domestic market with the intent of creating an indigenous industry that will be a real player in the international marketplace.

There are numerous options for the United States if we intend to compete in what is bound to be a multibillion-dollar technology market in the 21st century: Production incentives along the line of what Mr. Rinebolt described, long-term contracts are essential to

these technologies, and tax credits, subsidies directly to the industry.

The business energy tax credits for solar, geothermal, and ocean thermal should be extended. It makes good sense for this country. But those credits should also be available to wind energy technology and biomass. Whether in terms of potential or near-term competitiveness, there is no justification for not extending the same kind of subsidy to wind energy technology.

There have been problems in the past, the first decade of this technology's development. The technical failures that we saw in the early eighties are all too obvious. Wind is a very visible technology. Those failures can easily be compared to the same kinds of technical problems experienced by any new technology, whether we are looking at the early history of computers or automobiles. But those problems are resolvable, as are the problems of what have to be branded abuse of the tax credits by some developers. A system of certification of wind energy technology, making sure that the systems are functional before they receive any kind of credit, before they are really even allowed to compete in the marketplace, would be an easy way to resolve the problem along with a recapture provision. These provisions would exclude the fly-by-night operators eager to take advantage of whatever subsidy might be offered.

America is still the world leader in wind energy technology. Eighty percent of the world's current wind capacity is in this country. We cannot afford to abdicate our technological leadership, and tax policy can play a key role in creating both a cleaner environment and in providing important incentives for use of renewable energy technologies such as wind.

If we hope for the United States to be a significant part of this industry worldwide in the future, then we must be certain to nurture wind and other renewable technologies now.

I appreciate the opportunity to be here. And if you have any questions, I would be pleased to respond.

[The statement of Mr. Swisher follows:]

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STATEMENT OF
RANDALL SWISHER
EXECUTIVE DIRECTOR
AMERICAN WIND ENERGY ASSOCIATION

BEFORE THE COMMITTEE ON WAYS AND MEANS
U.S. HOUSE OF REPRESENTATIVES

MARCH 14, 1990

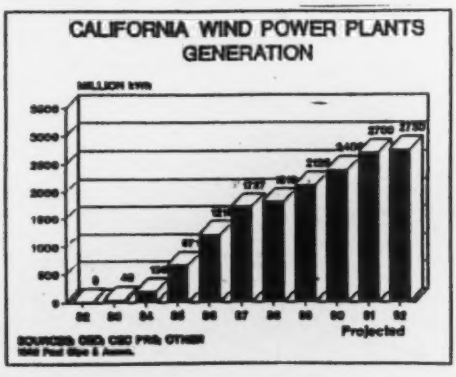
Mr. Chairman and members of the Committee, my name is Randall Swisher, and I am Executive Director of the American Wind Energy Association, a national trade association for the wind energy industry which since 1974 has represented wind systems manufacturers, project developers, component suppliers, technical research specialists, electric utilities, and individual supporters of wind energy technology.

I am pleased to have the opportunity to appear before the Committee today to share the wind industry's perspective on the subject of today's hearing: long-term strategies on the environment.

Clean, renewable energy technologies such as wind-generated electricity will play an essential role in making possible a growing and yet environmentally sustainable national and world economy. By the middle of the next century, the world's economy is expected to at least quintuple. Given the rising level of concern about fossil fuel emissions and the global environment, we can not expect to support dramatically increased economic activity based on fossil fuels. We must make a transition to clean, renewable sources of energy, and wind energy will play an important role in that transition.

The potential for wind energy technology is staggering. A variety of sources (including Lockheed, General Electric and the Energy Research Advisory Board) have conservatively estimated the technical potential of wind at one trillion kWh annually, or about 40% of today's electric demand. With utility-scale wind resources available in 37 of the 50 states, a national goal of producing 10% of our electricity using wind energy technology is realistic and attainable over the next few decades.

Wind energy technology has made remarkable progress over the last decade. In 1981, the industry was virtually non-existent as a source of utility power, producing only 10,000 kilowatt-hours (kWh), or about enough to serve two homes. In 1989 in California wind generated 2.125 billion kWh, enough to serve the residential needs of a city of over 900,000 people--more than the city of Washington, D.C.



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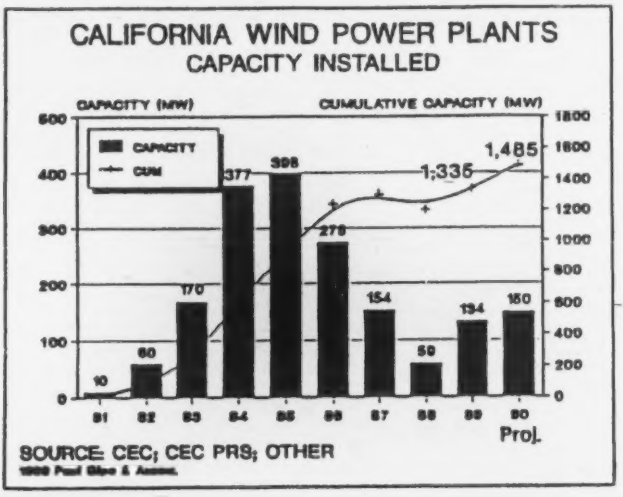
The renewable energy tax credit that was available to wind energy developers through 1985 played a very important role in stimulating this tremendous progress. There were of course other factors as well, in particular, state tax credits and federal and state regulatory policies that made long-term utility contracts possible. However, it is safe to say that the U.S. would not be the world leader today in wind energy technology, with over 80% of the world's installed wind capacity, were it not for the incentive provided by renewable energy tax credits.

CURRENT STATUS OF WIND ENERGY TECHNOLOGY

There are now about 15,000 wind turbines in California and Hawaii, providing a total installed capacity to electric utilities of approximately 1,400 Megawatts (MW).

As Figure 2 illustrates, wind energy experienced a "roller coaster" pattern of development in the 1980s. Spectacular growth in the early 80s in California was followed by a rapid decline when the tax credits expired in 1985 (federal) and 1986 (state). Development continues as lucrative state Standard Offer 4 (SO4) contracts are built out, but at a level that is less than 40% of what it had been at the peak. When the SO4's expire next year, wind development in California, and across the country, could come to a virtual halt.



Despite that sobering perspective, wind energy technology has enjoyed steady progress, making enormous strides through increased efficiency and performance and decreased costs. In the first few years of commercial development, technical failure was common. In 1981, for example, the first utility-connected wind turbines were only functioning about 60% of the time. Today, turbines that have been introduced in the last few years have availability factors of over 95%.

Wind turbine efficiency, as measured by what is known as "capacity factors," has also steadily increased, rising from an average of 13% in 1985, to almost 25% for new turbines in 1989, to over 40% for the best performing projects. This increased efficiency contributed to the 17% growth in wind-generated electricity last year in California.

The costs of wind-generated electricity have declined from 25 cents per kWh in 1981 to as low as 5 cents per kWh at the most outstanding sites or 7 to 9 cents at more typical wind sites. The goal of the federal wind research program is to achieve a 5 cent per kWh target at typical wind sites sometime between 1995 and 2000. This would make wind competitive with conventional technologies such as coal or even gas-fired electricity. The major question facing wind technology in the meantime is how to survive in the period before we are fully competitive with heavily subsidized conventional fuels.

ENVIRONMENTAL VALUE OF WIND ENERGY

Wind energy is one of the most environmentally benign methods of generating electricity. Any source of electricity has some environmental impact, and even wind turbines have a visual impact on the landscape, but the environmental impacts of wind pale in comparison to those of conventional fuels.

For example, conventional coal plants emit almost three tons each of sulfur dioxide and nitrogen oxides for every gigawatt-hour of operation, and over one thousand tons of carbon dioxide. Wind plants are responsible for only a trace of such pollutants even when the total fuel cycle, including plant fabrication and construction, is taken into consideration.

Tons per Gigawatt Hour of Emissions of Pollutants from Electric Power Generation Technologies: The Total Fuel Cycle[1]

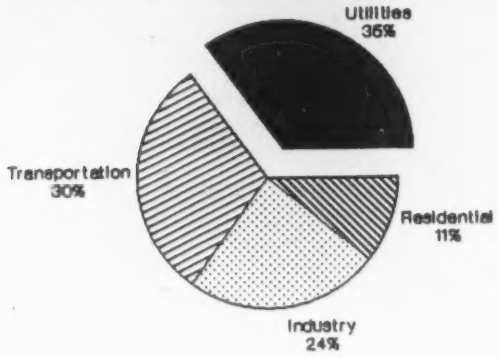
Energy Source	CO_2	NO_x	SO_x	Particulates	CO	HC	Rad Waste	Total
Conventional Coal	1058.191	2.986	2.971	1.626	0.267	0.102	*NA*	1,066.143
Fluidized Bed Coal	1057.090	1.551	2.968	1.624	0.267	0.102	*NA*	1,063.602
Natural Gas IGCC	823.993	0.251	0.336	1.176	*NA*	*NA*	*NA*	825.756
Boiling Water Nuclear	8.590	0.034	0.029	0.003	0.018	0.001	3.641	12.316
Photovoltaic	5.890	0.008	0.023	0.017	0.003	0.002	NA	5.943
Biomass[2]	0*	0.614	0.154	0.512	11.361	0.768	NA	13.409
Geothermal	56.8	*TR*	*TR*	*TR*	*TR*	*TR*	*NA*	56.8
Wind	7.4	*TR*	*TR*	*TR*	*TR*	*TR*	*NA*	7.4
Solar Thermal	3.6	*TR*	*TR*	*TR*	*TR*	*TR*	*NA*	3.6
Hydropower	6.55	*TR*	*TR*	*TR*	*TR*	*TR*	*NA*	6.55

** With Biomass Fuel Regrowth Program*
NA: Not Applicable *TR: Trace Elements*
Note: The total fuel cycle includes resource/fuel extraction, facility construction, and plant operation.

1. Meridian Corporation, *Energy System Emissions and Material Requirements*, Prepared for the Deputy Assistant Secretary for Renewable Energy, U.S. Department of Energy, Washington, DC, February, 1989, pp. 25 - 29.
2. Carbon Dioxide data adapted by CREE from Dr. Robert L. San Martin, Deputy Assistant Secretary for Renewable Energy, *Environmental Emissions from Energy Technology Systems: The Total Fuel Cycle*, U.S. Department of Energy, Washington, DC, Spring, 1989, p. 5. Other emissions data from Assistant Secretary for Environment, Safety, and Health, *Energy Technologies and the Environment, Environmental Information Handbook*, Office of Environmental Analysis, U.S. Department of Energy, October 1988, pp. 333 - 334.

We don't have to live with dirty air, dying forests, oil spills, or the threat of nuclear accidents in order to have the energy we need. Those tradeoffs should not be acceptable, if only because we do have alternatives. Renewable energy technologies such as wind, geothermal, biomass and solar thermal have all demonstrated they are technically viable. The challenge is how to increase their penetration into our energy systems more rapidly when conventional energy technologies are so heavily subsidized as to make it very difficult for small, emerging technologies such as wind to successfully compete.

SOURCES OF CARBON DIOXIDE
By Economy Sector, U.S., 1987



World Resources Institute, 1990

IMPORTANCE OF INCENTIVES FOR RENEWABLE ENERGY DEVELOPMENT

Renewable energy today provides about 8% of America's energy mix. Development of renewable technologies will continue, but policy decisions, including tax policy, will dictate how quickly we realize the potential for renewable energy as well as to what extent this emerging growth industry is dominated by American, Japanese, or European competitors.

Wind energy is competitive today with conventional fuels when one evalutates the total costs of electricity generation. There are many costs that are not reflected in our utility bills that consumers must pay one way or another--the environmental impacts, the health effects from spewing millions of tons of pollutants into the air we breath, substantial tax and research and development subsidies, and depletion of nonrenewable resources.

These billions of dollars of costs make a seemingly cheap source of energy relatively expensive for society. Such "social costs" represent a huge subsidy to conventional sources of at least three to six cents per kWh, according to German economist Olav Hohmeyer, and put clean renewable technologies such as wind at a systematic disadvantage. Hohmeyer concluded that the social costs of conventional energy systems such as coal or nuclear were at least equal to their market costs, which means that the total cost to society of conventional fuels is actually double what we see in our utility bills.

A similar study by the California Energy Commission, entitled "The Social Costs and Benefits of Electricity Generation and End-Use Technologies," reached conclusions that closely parallelled Hohmeyer's, and found wind to be one of the least expensive electric technologies when social costs are considered.

There are two options if we hope to make sensible economic decisions on energy choices:

1) Recover Costs from or Reduce Subsidies for Conventional Fuels

Conventional fuels could pay more of their full costs through mechanisms such as emissions taxes. The February, 1990 report of the Congressional Budget Office entitled "Reducing the Deficit" proposed a carbon-based excise tax on fossil fuels that was projected to raise as much as $190 billion over five years. A tax on sulfur oxides and nitrogen oxides, the pollutants primarily responsible for acid rain, has been proposed by Congressman Stark. Pollution taxes were also endorsed by Chairman Rostenkowski in last weekend's Washington Post. According to the Congressional Budget

Office, a tax on SOx and NOx would raise $22 billion over five years. Such taxes on fossil fuels would achieve a variety of objectives: spurring energy conservation, preserving nonrenewable fuels, creating a more "level playing field" with emerging renewable technologies, raising federal revenues, and achieving a cleaner environment.

Conventional fuels should also be less heavily subsidized. Subsidies for nonrenewable fuels make little sense, as they only encourage us to consume more of a finite resource. A 1985 study (see chart below) concluded that the energy industry in the U.S. received $44 billion annually in federal subsidies, of which the non-hydro renewables received only 4.5%, or $1.7 billion.

The 1985 study was restricted in its scope. It did not include such factors as the $9 billion dollar subsidy that has been provided for uranium enrichment services, the Price-Anderson limits on liability (which are worth $1 billion to $5 billion annually), or subsidies for nuclear waste disposal. Nor could it include the more recent subsidies or incentives encompassed by the Clean Coal Technology Program.

Although there have been substantial changes in the tax law since 1985, renewable energy technologies (and in particular wind energy) are, if anything, even more disadvantaged today.

Federal Subsidies for Energy Production[1]
(Fiscal Year 1984, $ Million)

Energy Source	Tax Breaks	Agency Outlays	Loans & Guarantees	Total Expenditures	Percent of Expenditures
Fossil Fuels	$17,514	$3,285	$1,437	$22,236	52.4%
Renewable Energy	$2,073	$1,366	$605	$4,044	9.5%
Nuclear Power	$9,954	$2,890	$3,320	$16,164	38.1%

Energy Supply by Source &
Department of Energy Technology Specific Program Outlays
(Fiscal Year 1988, $ Million)

Energy Source	Quads[2]	% of Total Supply[3]	DOE Program Outlays[4]	% of Total Outlays[5]
Fossil Fuels	69.70	85%	$1,106	17.7%
Renewable Energy	6.80	8%	$207	3.3%
Nuclear Power	5.74	7%	$4,596	73.6%

Sources:

1. H. Richard Heede, Richard E. Morgan, and Scott Ridley, *The Hidden Costs of Energy: How Taxpayers Subsidize Energy Development*, Center for Renewable Resources, Washington, DC, October 1985, p. 26.
2. Computed from: Idaho National Laboratory, Los Alamos National Laboratory, Oak Ridge National Laboratory, Sandia National Laboratory, Solar Energy Research Institute, *The Potential of Renewable Energy, An Interlaboratory Analytic Paper*, prepared for the Office of Policy, Planning and Analysis, U.S. Department of Energy, September 29, 1989, p. vi.
3. Ibid, p. vi.
4. *Budget of the United States Government, Fiscal Year 1990, Appendix*, U.S. Government Printing Office, Washington, DC, pp. I-J1 - I-J18.
5. Computed from *Budget of the United States Government, Fiscal Year 1990, Appendix*, U.S. Government Printing Office, Washington, DC, pp. I-J1 - I-J18.

2) Provide Economic Incentives for Renewable Energy Development

Renewable energy technologies will not be able to realize their potential without subsidies that put them on the same level as conventional fuels and that more accurately reflect their value to society. After taking an impressive lead in development of renewable technologies in the late 70s and early 80s, the U.S. has steadily disinvested in these emerging technologies. At the same time, Western Europe and Japan are making major strides toward renewable energy development.

Six European countries are each currently investing more than the U.S. FY 1990 total of $9.127 million annually in wind research and development. West Germany has recently established a subsidy of

4.4 cents per kWh for wind projects, and the Netherlands is providing a 45% subsidy for private wind developers, with a maximum subsidy amount of $2.65 million per project.

Danish companies have long been fierce competitors of American wind manufacturers in the international markets. For example, Denmark won a contract for a wind development in India by providing $24 million in tied aid for the project. The Europeans have used subsidies, therefore, first of all to nurture new wind companies using market incentives to build a domestic wind industry. Secondly, they have subsidized their international competitiveness to establish a strong presence in foreign markets. Both types of support are based on the knowledge that by the mid to late 90s wind energy will represent a multi-billion dollar business with major export potential. Even today wind energy technology represents Denmark's seventh leading export.

In an American energy economy where conventional fuels are heavily subsidized and wind technology is not, the outlook ought to be obvious: the potential for wind energy technology will be realized, but only over a much longer period of time than is consistent with our national interest. It is also clear that the huge markets for wind technology, both nationally and internationally, are most likely to be taken advantage of by those countries that have had the foresight to nurture this fledgling industry in the late 80s and early 90s.

Right now the U.S. is failing the test. We have removed the tax credit for wind technology and watched the industry go into a tailspin. The U.S. has cut federal wind research and development to 10% of what it was a decade ago. We have abdicated what was once clear cut technological leadership to our international competitors. And yet, around the world, interest in wind technology is at an all-time high, and with rising concern about the global environment it seems clear that wind technology has a promising future. The question is: will the U.S. have provided the foundation for strong participation by American industry in this growing market?

TAX POLICY AND WIND ENERGY DEVELOPMENT

When Congress allowed the renewable energy tax credit for wind to expire at the end of 1985, the industry was still far from mature. The combination of federal and state energy credits along with the investment tax credit attracted many people to the industry, some of whom lacked the technical capability to develop reliable projects. There were also outright cases of tax fraud. Those problems of technical failure and abuse of the tax credits, while isolated, were nonetheless highly visible, and gave the industry a credibility problem from which it has still not totally recovered.

But no infant industry can generate 2 billion kilowatt-hours without a large degree of technical skill and dedication, and the wind industry has demonstrated both as it has steadily increased the performance and decreased the costs for this technology.

The American Wind Energy Association recommends reinstatement of the renewable energy tax credit for wind energy with certain protections to ensure against misuse of the incentive. Certification of wind systems is common in Europe, and would provide a large degree of protection against paying tax subsidies for non-functioning projects, particularly when paired with a lrecapture provision. Certification would involve substantial cost for industry, and could be a hardship for small companies, but it is a reasonable price to pay to ensure sound use of taxpayers' dollars.

Renewable energy technologies such as wind technology are a key to solving America's environmental problems. Tax policy can play an essential role in helping to nurture these emerging industries to viability, but instead, federal tax policy has wrecked havoc on the American wind industry, giving it a very rapid build-up in the early 80s, then knocking the props away with no ramp-down in 1985.

Tax subsidies are essential for most renewable technologies to compete against heavily subsidized conventional fuels in the early 90s. Of 5 renewable electric technologies that offer similar promise, it makes no sense to provide tax credits to three--geothermal, ocean thermal and solar--while denying them to two others--wind and biomass.

Whether measured in terms of market potential or near term economic competitiveness, wind technology is every bit as deserving of support as the other technologies. America will need all the renewable energy it can generate in the 21st Century, and should develop a coherent strategy now to ensure that wind and other renewable technologies more quickly realize their enormous potential.

Mr. GIBBONS. Mr. Henneke, you suggested we tax those who contribute to the pollution of carbon monoxide and ozone. How do we go about taxing it? How do we levy a tax?

Mr. HENNEKE. Mr. Chairman, at the present time we basically do not discriminate on what someone puts in their car. In other words, we do discriminate that an old car had fewer pollution controls than a new car, and especially a very new car is going to have expensive pollution controls but we do nothing on the gasoline.

The data is pretty well known now about what parts of a normal gasoline blend can help and what things can hurt. As Mr. Lewis testified, MTBE and the ethanol ether ETBE, methanol, and ethanol all are very high octane components that can substitute for some components which are called the aromatics—benzene, toluene, and xylene, that are extremely heavy polluters. We have a situation where the technology to clean up is well known, but the costs are not internalized.

It is going to be one of those tough taxes where you are depending on scientists, and good scientists always have different opinions. It is very hard to end up equating those things. But otherwise, you are forced, as you have been on tailpipe emissions, to do a command and control approach where you legislate that gasoline can have only 25 percent aromatics or that you must have—as Mr. Lewis was complaining about—3.1 oxygen average in a CO nonattainment.

I am not sure that command and control is the best way long-term. I think it may be better to go ahead and recognize that there are some well-known components that are high polluters and put a tax on them as they are used in gasoline.

I just want to tell one small story. In Oklahoma we have a problem: The Sun Refinery across the river from Tulsa emits 50 tons of benzene a year. The bad news is EPA is forcing them to spend a lot of money so that they will emit less. The even worse news is that if they emit less, it gets trapped in the gasoline, then it goes into everybody's garage or along the roads where people are jogging, to have that benzene emitted out where people are exposed to it. It would be safer to emit it right there at the refinery.

Mr. GIBBONS. Well, I am afraid the average Member of Congress has a lot more to learn about this stuff. We may act in this field, but we will not act as well informed as we should.

Mr. Condy, I did not mean to miss you. And I am sorry, I thought I had gotten you. So go ahead.

STATEMENT OF CHARLES T. CONDY, CHAIRMAN AND CHIEF EXECUTIVE OFFICER, CALIFORNIA ENERGY CO.

Mr. CONDY. I thought you would get around to me sooner or later.

Thank you very much, Mr. Chairman and Congressman Chandler.

I founded California Energy Co., 19 years ago, and today, we are the 15th largest producer of electricity in the State of California out of 381 producers of electricity in that State. The fuel that we use is the hot air that you were referring to.

Mr. GIBBONS. Well, we have got a lot of that around here.

Mr. CONDY. Yes, sir. And we call it natural steam.

Our principal project at the present time is in the Mojave Desert at the China Lake Naval Weapons Center where we are producing 240 megawatts of electricity. That, by the way, sir, is enough electricity for 240,000 homes in southern California.

Today I would like to explain how important we feel the energy tax credit has been to our company, and then by extension to our industry.

It has definitely helped us get our project on to solid financial footing, and it has also made a significant contribution to an environmentally clean and we think energy-secure future for America. But this resource and these types of developments are going to need more help.

I propose that the validity of the arguments that persuaded you or your predecessors in Congress to initially enact the energy tax credit legislation is just as strong today as it was in 1978. Even today we cannot assume that the oil surpluses are going to last forever. As a matter of fact, OPEC today is within 2 million barrels of maximum production from all of their oil fields.

Renewable energy has held the promise and offered us a very strong hope for an energy-secure future in this country. Our project alone in Coso will displace 300 million barrels of oil over its first 20 years of operation.

Best of all, as some of these other gentlemen have testified before, with respect to renewables, they produce an environmentally clean and sound and benign kilowatt.

By comparison to the types of plants that it competes with now and into the future, a coal plant will put out some 17 million pounds of carbon dioxide which, as you have heard many times I am sure, is the principal greenhouse gas. Now, it puts that into the atmosphere for every megawatt year. Our plant at Coso by comparison puts out only 10,000 pounds per kilowatt year. An oil-fired plant would put out 13 million pounds. And that again compares to that 10,000 pounds I was talking about.

The ratio, by the way, for sulfur oxides is 90,000 to 100,000 pounds at a coal or an oil plant and just 1,000 pounds for instance at our Coso plant. And the Coso plant puts out no nitrous oxides.

The California Energy Commission has written in our small powerplant exemption that the plant that we have installed in southern California has taken the geothermal development to a new level of environmentally sound development of electricity. I do not believe we would have gotten that project off the ground without the energy tax credits.

The development of geothermal, just like any renewable resource for the production of electricity, is very high risk. And it is highly capital intensive. The financing of these projects really is never a foregone conclusion. But the promise of future energy tax credits is especially helpful in the early years when the lenders would most likely be reluctant to lend otherwise.

Once the plant is operational, however, the credits will effectively lower the developers' cost of money, allowing repayment of the debt much more quickly at a time when cash-flow to the product would typically be thin. In addition to that, it allows us to charge a much lower price for electricity than we could without the credits.

The cost of money, for instance at our Coso plant, is 50 percent of the entire cost of making a kilowatt at the plant.

I would like to elaborate on this point a little bit because it is really central to our testimony today.

The company now has a very, very healthy future. We are quite successful. And that is evidenced by continuously growing electricity sales. The project in Coso will generate approximately $200 million in revenue in 1990. We have contributed many, many jobs to the State of California's economy, and that in turn has generated spending. And in the local area where we operate, we are taxed locally and regionally, and we pay royalties for the Federal Government in excess of $20 million per year.

In the county of Inyo, we are today 37 percent of the tax base of that county alone. And this year I suspect we will bumping up near 50 percent.

The consumers in southern California as well as business and households are also winners because they will be benefiting from an increase in the supply of a clean and renewable electrical source.

We have been able to achieve the success today because we were able to achieve a substantial amount of financing. The total to date has been $650 million, not an awful lot of money, but is for an independent, small company like ourselves and like most developers of renewable energy, in many cases an insurmountable mountain to climb.

Now, had we not been eligible for those tax credits at that time, it is quite possible that we would not have been able to get financing terms that would have allowed us to go forward with the construction of that plant. It is quite possible we would not have attracted any financing at all. But instead, the promise of those tax credits allowed us to produce this plant and have this healthy corporate structure that I mentioned and a power producing physical plant.

Promoting environmentally sound production is also consistent with other significant congressional goals, such as the enactment of the clean air bill. We must not lose sight of the fact that there is a very strong link between energy production and our Nation's environmental aims.

I believe that the tax credits are a very good investment with a very large payoff for the American public. What little room there is for abuse has pretty much been closed up or, with the addition of a few simple rules, can be eliminated altogether.

In conclusion, I believe that the best way to ensure development and growth of renewable resource technology is to demonstrate a long-term, long-range commitment to those industries, and a permanent extension of the energy tax credit would be the most appropriate way to give that signal.

[The statement of Mr. Condy follows:]

Statement by
Charles T. Condy
Chairman and Chief Executive Officer
California Energy Company

Appearing before the
Committee on Ways and Means
United States House of Representatives

Mr. Chairman, members of the Ways and Means Committee, my name is Charles Condy and I am chairman and chief executive officer of the California Energy Company.

We are the 15th largest producer of electricity in the state of California, and the leader in geothermal development.

We are also one of the largest Independent Power Producers---that is, not-a subsidiary of one of the large utilities---in the nation.

Our fuel is naturally occurring steam. Our principal project at the present time is the Coso Geothermal Plant in the Mojave Desert, a nine-generator complex on land leased from the Bureau of Land Management and the U.S. Navy.

Just before the beginning of the year, we placed in commercial service our ninth turbine, the last of the plant's currently planned configuration, bringing our generating capacity to 240 megawatts. That completes the schedule we established when we began developing the project, and which we promised to our financial lenders and our shareholders, and to the Southern California Edison company, which purchases the entire commercial output of the plant. It also means we are now producing revenues for our landlords, the Navy and BLM.

I am here today to explain to you how important the energy tax credit has been to our company, and by extension to our industry. By helping us get our project on solid financial footing, you have also made a significant contribution to an environmentally clean, and energy secure, future for America.

But continued help is needed.

First, some background. Tax credits for renewable energy properties were first enacted in 1978. Currently, section 46(B) of the Internal Revenue Code provides for a 10-percent nonrefundable energy tax credit for investments in geothermal, solar, and ocean thermal properties. This provision, scheduled to expire in September 1990, was put into place in response to several years of escalating prices of oil and gas. There was also much public debate about the wisdom of placing all of our energy eggs in a basket controlled by foreign hands.

It was felt then that federal encouragement of renewable resources would help the nation regain control of its energy destiny. So you began passing energy related laws, like tax-credit legislation, and PURPA.

Then, just when we thought the oil wells were all going to run dry (remember!), just when we were getting ourselves primed to pay $40 per barrel, we suddenly found ourselves awash in petroleum. It was still foreign oil, but we didn't seem to care. Prices were falling, and there was a worldwide glut on the international marketplace.

Sentiment for the renewables declined. Investment tax benefits have been gradually cut back over time and are expiring in September; you are giving serious thought to not renewing them.

But, ladies and gentlemen, I would propose to you that the validity of the arguments that persuaded you, or your predecessors in the Congress, to initially enact tax-credit legislation is just as valid today as it was in 1978---if not more so.

-more-

We cannot assume that the oil glut wil' last forever. It remains a fact that the world's supply of fossil fuels is limited, and our continued unbridled use of them will diminish reserves severely.

Nor is it any wiser today than it was in the 1970s to allow foreign hands to control the spigots that supply the fuels that drive our industry, and our economy. Yesterday, it was a strong and united OPEC in control of the price of energy. Today, the nations of Eastern Europe, and especially the Soviet Union, stand ready and eager to join the world economy as players, with as-yet unpredictable results. The Soviets, at least, have one very substantial chip, in the form of oil and gas reserves, and a vast hunger to convert that chip into currency.

Nor should we limit our concerns to OPEC or Eastern Europe. A substantial portion of our natural gas supply is under control of Canadian hands. Canada is a friendly country and Canadians are neighborly people, to be sure. However, they are no doubt more concerned about the stability of Canada's economy than ours.

Renewable energy resources offer us our strongest hope for an energy-secure future. We have made great advances in developing the various technologies involved---solar, wind, geothermal---as evidenced by California Energy's 240-megawatt project in the Mojave Desert.

Best of all, these renewable resources are clean, environmentally benign. A coal-fired plant puts some 17 million pounds of carbon dioxide---the principal greenhouse gas---into the atmosphere for every megawatt-year of electricity generated; an oil-fired plant, 13 million pounds. That compares with a mere 10,500 pounds at our geothermal plant in the Mojave.

The ratio for sulfur oxides is 90,000 to 100,000 pounds at a coal or oil plant to just 1,000 pounds at Coso. For nitric oxides, the ratio is 3,000 pounds to zero.

In the words of the California Energy Commission, our plant represents "an important advance in the continued development of this generating resource."

But we might never have gotten our project off the ground without the assistance of the investment tax credits.

Geothermal energy development is an extremely high-risk, capital-intensive venture. Financeability of such projects is never a foregone conclusion. The promise of future tax credits are especially helpful in the early years, when lenders would otherwise be reluctant to participate.

Once the plant is operational, credits can lower the effective cost of money, allowing for the repayment of the debt component of capital at a time when cash flow can be thin.

Let me take a minute to elaborate on this point, because it is central to my testimony today. The California Energy Company has a healthy future; we are successful as evidenced by our growing sales of electricity totalling some $100 million annually.

We have been able to achieve this success today only because we were able to obtain the financing for a huge capital investment---$650 million---yesterday.

That's a substantial amount of money to raise, especially for an independent company like California Energy. We aren't protected by a rate base nor do we have access to the 30-year, bond financing generally available to the nation's large utility companies. Our capital is private capital, and it is normally limited to conventional bank terms---generally, 10 years.

Had we not been able to show bankers our eligibility for tax credits and consequent improved cash flow in the early years when interest costs are highest, we would not have been able to obtain the financing at terms favorable enough to go ahead with our plant construction. Indeed, it is quite possible we would not have attracted any financing at all.

With the promise of future tax credits in our pockets, however, we were able to finance the project and meet required cash flow coverages. Today, we have a healthy corporate structure and a functioning power-producing physical plant.

Such a boost to our financeability has not cost the Federal government one cent in taxes to date, because we have not yet realized the credits to which we are entitled. However, in the meantime, we have already become a major employer and income tax payer. We are a source of substantial revenues not just to the federal coffers, through payroll witholding and alternative minimum taxes, but to state and local agencies as well. We currently pay more than 30 percent of the total property taxes collected by California's Inyo County.

Typically, a firm starting up in our business will incur no direct tax liability initially because it will be making huge investments in plant and equipment long before it is able to generate electricity and make profits by selling power to the public. Startup companies are not allowed to claim the tax credit until they generate not only electricity, but also taxable income.

Because start-up companies in our business benefit in this way simply from having bankable credits in their pockets---before the Treasury forgoes one cent in taxes---it is a great deal for the Federal government.

In short, the credits help us obtain financing and thereby get started. Since generation of taxable income necessarily lags our huge up-front investment, the Treasury doesn't actually have any revenue cost until much later, and is, therefore, a net winner.

Electricity consumers in Southern California---businesses and households alike---are also winners, because they are benefitting from an increase in the supply of clean, renewable energy.

I urge you to make the energy tax credits permanent so we can count on their continued availability to help the renewable resources industry grow in the years ahead. This would eliminate the year-to-year uncertainty we currently face, which seriously complicates our business planning and the plans of others undertaking similar ventures elsewhere.

There is another benefit derived by the nation from the tax credits, as well. They help to levelize the playing field on which the marketplace conducts its affairs, by helping to correct market prices for so-called "economic externalities."

Even ardent market economists recognize that it may be appropriate for government to exercise its authority to the marketplace inequities---such as environmental cleanup---through tax policy.

This adjustment can either be in the form of a penalty tax levied against pollution producers, or a tax benefit---a credit---extended to any production that is especially clean. Just as the marketplace fails to recognize how much dirty production ultimately costs the public, it also fails to properly value clean production.

The geothermal energy industry is a perfect example of clean production that warrants a tax adjustment in order to stimulate more production.

Thus the existing business energy tax credits designed to encourage production from renewable energy sources are wholly consistent with other taxes intended to discourage activities that pollute the environment. The credits are simply the other side of the same tax coin.

Promoting environmentally sound energy production is also consistent with other significant congressional goals. The enactment of a Clean Air Bill is a prime example. We cannot afford to lose sight of the link between energy production and environmental aims.

I fully appreciate the scrutiny with which Congress examines how tax dollars are being used---whether through the outlay, the budget, or the revenue side. I firmly believe that the energy tax credits are a good investment with a large payoff for the American public.

What little room for abuse there may be can easily be controlled by the inclusion of a few simple rules.

Already, credits cannot be invoked until after the assets are "placed in service."

In addition, you might consider conditioning eligibility for credits on some meaningful level of production actually taking place.

Use of the credits could be restricted to offset profits produced only from the "qualifying asset."

In conclusion, the best way to ensure the continued development and growth of renewable-resource technology is to demonstrate a long-range commitment to the industry. A short-term fix is not enough. An extension of the credits for six months, or nine months, or a year is too weak. Such a short period of time does not allow for the long-term planning essential in today's electricity marketplace. These projects typically take three to six years from inception to production. A permanent extension of the energy tax credits would be more appropriate.

That concludes my prepared statement, Mr. Chairman. I am happy to answer any questions you or the other members of the committee may wish to ask.

Mr. GIBBONS. Mr. Condy, you are essentially using the energy stored in the Earth as your fuel——

Mr. CONDY. Yes.

Mr. GIBBONS [continuing]. As I guess all of you are one way or another. Can your plants be placed almost anywhere on Earth, or does it have to be a peculiar geological formation?

Mr. CONDY. No, Mr. Chairman. They have to be located within 1 mile of the resource site. After 1 mile, friction will begin to reduce the temperature in the waters and therefore reduce its efficiency when it arrives at the plant.

Mr. GIBBONS. You are talking about 1 mile straight down or sideways or what?

Mr. CONDY. Well, we drill between 1 and 2½ miles. And that is where the risk comes in. Because utilities are not about to take that kind of risk. They are not about to put 600 million dollars' worth of plant over a hole that some wild-eyed Irishman from Brooklyn, NY, tells them is going to provide steam for the next 30 years.

The utility companies are the best resource finders in the world. Whenever they want to find oil, they pick up the phone and call the oil guy. Or they pick up the phone and call the coal guy or the nuclear energy guy. But as far as taking the kind of risks that we have to take in order to develop geothermal energy, utilities are just not prepared to do that.

Mr. GIBBONS. OK.

Mr. CONDY. There was a great sea change that occurred in banking about 5 years ago that made the energy tax credit even more important than it was conceived to be back in 1978. As I am sure you are fully aware, bankers have turned their attention from sovereign debt, which they thought was the best thing that ever happened to the banking industry, and they are also not so thrilled with collateralized debt these days, as is evidenced in the S&L problems that we have. And somehow they turned their attention back to project finance, which is really what we do and the people in wind have to do, and the people in solar have to do. Because we are not major companies that can just go back into the company treasury and get a couple of hundred million dollars tomorrow afternoon. We have to use project financing.

Now, it is terrific that the banks are seriously considering this again today. But the most important component of a project finance is the cash-flow spread. They are looking for a spread of between 1½ to 2 times on your net revenues.

Using the investment tax credit early on in the project, allows the cash-flow to come to the bank so that it can see that it has the coverages that it is going to need in order to get repaid. That energy tax credit has become very important in the area of project finance—and this only happened in the last few years. The tax credits were not very usable by our industry prior to that time.

Mr. GIBBONS. That is interesting.

I suppose you heard one of our earlier witnesses say, Mr. Condy, that a geothermal project in Hawaii was destroying the only tropical rain forest. Do you know anything about that?

Mr. CONDY. We have—as a matter of fact, the California Energy Co. has won a beauty contest in Hawaii. We are the selected devel-

oper of the Hawaiian geothermal project. When I say "beauty contest," it does not mean very much right now because the State of Hawaii at the moment does not have a Statewide energy development strategy.

Mr. GIBBONS. Yes.

Mr. CONDY. The State of Hawaii has the same renewable opportunities, for instance, as the State of California, which under our energy commissioner, Chuck Imbrecht, and Governor Deukmejian has pretty much led the way in renewables.

We have written a complete report on the development that has been going on by other companies on the Big Island of Hawaii with respect to the areas of the forests in which they are operators. And I realize it is a very emotional issue. And as a matter of fact, there is an addition to emotion and environment, and that is religion. The Los Angeles defense fund is religiously driven.

I think the only way to properly develop Hawaii may be the approach that will be taken after the election, depending upon who the Governor is later this year, an overall strategy for the State of Hawaii that would take into consideration the personal, environmental, and religious concerns. And that can only be done by a very strong developer with a track record. And the developers that are currently out there are rather small and have very little track record, do not have much of a budget for environmental litigation.

To give you some idea, if we were to have the opportunity to develop in Hawaii, we would deal with the rain forest issue in the most environmentally benign way. At Coso in the Mojave Desert, which I mentioned was on the naval weapons center, we have spent $20 million on environmental issues on a weapons center that the Navy bombs on a regular basis in the middle of a desert.

Well, if we can spend that kind of money and be called one of the environmentally sensitive developers in the State of California, given the opportunity I think I can produce some more attractive headlines from the Hawaiian newspapers in the future years to come in geothermal development.

Mr. GIBBONS. I want to thank all of you for coming and helping us with this very vexatious problem.

Mr. CHANDLER. Mr. Chairman.

Mr. GIBBONS. Yes. Excuse me, I am sorry. I have been doing a solo here for so long I have forgotten. And I apologize.

Mr. CHANDLER. That is quite all right. And I thank the chairman for his recognition.

I want to say for the record that my colleague, Mr. Thomas of California, would be here, but he is busy with the Budget Committee right now and is unavoidably detained.

Mr. GIBBONS. Boy, if you could harness the hot air out of that place, you would really have something.

Go head. I am sorry.

Mr. CHANDLER. Mr. Thomas and I are both especially interested in Mr. Condy's testimony because of the operation of projects in our States and, in my case, perhaps even in my own district. And, of course, we are excited about that potential. So, I had a series of questions prepared for Mr. Condy because I think it is important that these be considered for the record.

And if I may, Mr. Chairman, I will just ask them as quickly as possible.

Mr. GIBBONS. Certainly. Without objection, they will be included in the record.

Mr. CHANDLER. First of all—especially in the State of Washington where we enjoy low energy rates—do you see geothermal as being competitive, Mr. Condy? And then of course elsewhere in the country where you are operating?

Mr. CONDY. The States of Washington and Oregon, as you know, Congressman, have been blessed with a low cost of energy. I myself have a home in Oregon where I pay about 4 cents a kilowatt hour. But I also have a home in San Francisco where I pay 11 cents per kilowatt hour.

That blessing came in the form of dams on the Columbia River. We are not going to be able to duplicate that again. Electricity in the future is going to cost more just because new plants cost more than the plants cost back in 1937. So we can expect a higher cost.

It is going to cost a lot more, as a matter of fact, as a result of the clean air bill and the rules in places like the South Coast Air Quality Management.

On the subject of competition, it currently costs 6 cents to make a kilowatt of geothermal energy at Coso. When our financing is retired in the 10th year of operation, the cost to make electricity at Coso will be 3 cents. At the moment, there is no competitor that can produce electricity from a new powerplant at 3 cents a kilowatt hour.

The most famous powerplants in the State of California are San Onofre, which is owned by Southern Cal Edison, and Diablo Canyon, which is owned by PG&E. Electricity from those plants cost 12 cents per kilowatt hour, and that does not take into consideration the cost of disposing of the spent fuel or the decommissioning trust, which in the case of San Onofre I was about $800 million.

So I am sure that geothermal developments in the States of Washington and Oregon will definitely be competitive with all current technologies that are proposed for that area.

Mr. CHANDLER. How much fossil fuel, coal, oil, and other forms of fuel that is burned now, can geothermal be expected to displace? Assuming with or without current tax credits being in place?

Mr. CONDY. The potential for geothermal in the Western United States has been reported in a study by the Department of Energy and the U.S. Geological Survey as having a potential of nearly 50,000 megawatts. That full potential could not be developed in the next 10 to 20 years. It could take substantially more time than that. I believe in the Western United States there is a definite possibility of producing approximately 20 percent of all of the electricity from geothermal.

At the moment—and I know the statistics for California a lot better than the State of Washington. I am sorry, I will bone up for the next time we meet. The State of California is 50 percent natural gas. Geothermal currently produces nearly 8 percent of all the electricity in that State. I believe we can get up to 20 percent by the year 2000. We are certainly going to try.

We are looking for the potential development in the States of Washington and Oregon, the Cascades, in this decade to about

1,500 megawatts from zero, and for the decade for our company nearly 2,000 megawatts including further developments in California.

I think it has a great future. It has just never been explored before effectively in the Northwest.

Mr. CHANDLER. And as you look to that, what effect would loss of the tax credit have either on those future or presently planned developments?

Mr. CONDY. Well, it would have an effect in the rates at which we could borrow money for the construction of powerplants. That would have the effect of increasing the cost per kilowatt.

When you come right down to the hard question, you know, "Mr. Condy, are you going to go forward and develop geothermal energy in the State of Washington even if you do not have the tax credits?" the answer to that is "Yes, I will be able to do it. It would be easier with the tax credits because I am going to be competing against all the utilities in the United States."

Most independent power developers now are coming to the conclusion that that is where the real competition is going to be. The wholly owned subsidiaries, the nonregulated subsidiaries of the major utility companies are going to be our competition. And the one that I happen to be working with is pushing something like $520 million a quarter down into the subsidiaries at I am sure very favorable rates.

So that is where the competition is going to be. The tax credits would help us meet that competition because we could get money at reasonable rates.

Mr. CHANDLER. Well, Mr. Chairman, my time has expired. And, I have my own meeting that I am late for. So, I thank you very much.

[The following was subsequently received:]

ONE HUNDRED FIRST CONGRESS
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COMMITTEE ON WAYS AND MEANS

U.S. HOUSE OF REPRESENTATIVES
WASHINGTON, DC 20515

March 16, 1990

Ms. Judy Pensabene
Murphy & Demory Ltd.
2300 N Street, N.W.
Suite 725
Washington, D.C. 20037

Dear Ms. Pensabene:

In order to complete the record of the hearings on long-term strategies and the environment, at which Mr. Charles T. Condy testified on March 14, 1990, I am forwarding some follow-up questions from Representatives Thomas and Chandler. We would appreciate answers to these questions which should be supplied to the Committee office, 1102 Longworth House Office Building, to the attention of Diane Kirkland, by Friday, March 30, 1990.

Thank you for your cooperation in this matter.

Sincerely,

Dan Rostenkowski
Chairman

DR/dk

Enclosure

cc: Bob Winters
Office of Rep. Thomas

Mac McKenney
Office of Rep. Chandler

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JUDITH K. PENSABENE
PRINCIPAL

March 30, 1990

The Honorable Dan Rostenkowski
Chairman
Committee on Ways and Means
U.S. House of Representatives
1102 Longworth Building
Washington, D.C. 20515

Dear Chairman Rostenkowski:

In response to your letter of March 16, 1990, I am enclosing the responses of Mr. Charles T. Condy to the follow-up questions from Representatives Thomas and Chandler submitted at the hearing on long-term strategies and the environment on March 14, 1990.

Sincerely,

Judy Pensabene

Judith K. Pensabene

JKP:cg

Enclosure
cc w/enc.: Bob Winters
Office of Rep. Thomas

Mac McKenney
Office of Rep. Chandler

Questions for Charles T. Condy
Chairman, California Energy Company, Inc.

1. Q. Since most geothermal is located in the western United States, what benefits accrue to the rest of the country from geothermal development?

   A. The benefits to the national economy, not to mention its environment, of developing geothermal energy are manifold. Modern transmission and storage systems mean that the production of electricity anywhere in the country has an impact on supplies over very wide areas. For instance, geothermally produced electricity in California is fed into an energy grid that covers the entire western third of the United States, providing for dependable supplies over that entire area. Advances in transmission and storage systems will eventually result in a national grid, stretching from coast to coast and from Canada to Mexico.

   In addition, every kilowatt of energy produced by renewable fuels, such as geothermal, reduces our national dependence on foreign oil, with all the security and economic benefits that entails. Since its start-up in July, 1987, our Coso Project alone has displaced millions of barrels of oil. Moreover, Coso contributes significantly to our national goal of eliminating hazardous air pollutants through the increased use of renewable fuels.

2. Q. What are the benefits to the local economy and community of geothermal energy production?

   A. California Energy Company currently pays more than 30 percent of the total property taxes collected by California's Inyo County. And we operate there, and elsewhere, on federal lands that made little or no contribution to the local tax base before we began operations. This is, of course, in addition to the skilled and well-paying jobs that are created and maintained by our operations.

   Because geothermal energy is environmentally benign, its use reduces or eliminates the need for expensive environmental "add on" costs to local consumers' electric bills.

3. Q. Why should the tax credits for the geothermal industry be made permanent?

   A. It is my view that tax incentives are an efficient way to bring about greater use of clean energy resources. The investment tax credits now available to geothermal, that expire this year, are helpful in the early years of a project because they lower the effective cost of money and allow for the recovery of capital early, when cash flow can be quite thin. In an extremely capital intensive industry, such as geothermal development, this can be crucial to the ability to acquire development financing.

Mr. GIBBONS. Go back over that, what you just said. I am not sure I understand it, about where your major competition is coming from.

Mr. CONDY. Well, it is going to come in the future from the wholly owned subsidiaries of the major utility companies.

I just read an article that pointed out that probably every utility company in the United States will have a wholly owned subsidiary that is nonregulated by the year 2000. These subsidiaries are set up to enter into the energy producing business.

The major utilities, by the way, are not planning to build powerplants. And they have not planned to build powerplants for a long time. The building of powerplants has been left up to independent producers such as myself and these other gentlemen. And to date we have installed over 20,000 megawatts of power by independent producers.

Now, these subsidiaries, which are financed by their parents, are the major competition in the future. For instance, the biggest cogenerator in the United States today is Dow Chemical. The second largest is the wholly owned subsidiary of Southern California Edison. Pacific Gas & Electric, which is the largest utility in the United States, has just joined together with Bechtel, one of the largest construction and wealthiest companies in the United States, to go into the independent power production business.

I could cite company after company with their wholly owned subsidiaries that have enormous amounts of money dropping down into these subsidiaries that we have to compete against. And they do not have to go to the bank to get a loan. And if they did go to the bank, they would have the parent signing on the dotted line for them.

So that is pretty powerful competition. And with tax credits available to us, we can get a lower cost of money. And that helps us compete.

Mr. SWISHER. An example close to home, Congressman, would be Florida Power & Light, which has a subsidiary called ESI, which over the last year in fact has been an investor in a wind development in California.

Why a utility in Florida would be investing in California is a good question. But that is the way in which the utility industry is developing. As Mr. Condy said, you will find this kind of development going on all over the country.

Mr. CONDY. An interesting fact, however: the utility companies are not allowed to use the energy tax credit. And one of the reasons ESI is in a wind power project in California is because it bought the tax credits off the independent power producer that allowed them to finance this project to get on line.

I guess that the utilities would rather invest in power producing projects by comparison to Montgomery Wards or—I noticed a utility company in California bought Longs Drug Co. I do not see how it matches there. And I remember back in the old days of the oil boom when Arco bought Ringling Brothers & Barnum and Bailey Circus. And it is all part of an investment strategy by the wholly owned utilities. But, you know, this is where the competition is going to come from for——

Mr. GIBBONS. What you are saying, utilities are supplying their subsidiaries with preferential financing——

Mr. CONDY. Oh, absolutely.

Mr. GIBBONS [continuing]. Which in effect comes out of the rate payer?

Mr. CONDY. No, sir. These are the profits that are legitimately earned by the utility under its regulated status.

Mr. GIBBONS. Oh, they are part of the guaranteed profit?

Mr. CONDY. That is right.

Mr. GIBBONS. That is rate-payer-generated though.

Mr. RINEBOLT. If I may interject, Congressman, I would however point out that, at least in the context of the National Wood Energy Association, my engineering members have no qualms about utilities building wood-fired powerplants. They are more happy to design them.

Mr. GIBBONS. It has been very interesting, gentlemen. I appreciate your coming here to educate me. Thank you very much.

This concludes our hearing for today.

[Whereupon, at 1:45 p.m., the hearing was adjourned.]

[Submissions for the record follow:]

STATEMENT OF W. HENSON MOORE
DEPUTY SECRETARY
U.S. DEPARTMENT OF ENERGY
FOR
THE HOUSE WAYS AND MEANS COMMITTEE
MARCH 6, 1990

Mr. Chairman and Members of the Committee, I appreciate the opportunity to submit testimony on how the Federal tax system could be used to improve the environment. The Department of Energy believes that energy, environmental, and economic policies need to be mutually sustaining, and are not contradictory concerns.

That is the underlying theme of the National Energy Strategy (NES), which the Department of Energy is in the process of developing. The NES will serve as a road map for Government policies to help provide the Nation, in the years to come, with adequate supplies of competitively priced, clean energy. The public hearings we have held around the country for the NES have inspired what I consider to be a healthy debate on energy policy. In one of these hearings, which I co-chaired with Mr. John Robson, the Deputy Secretary of the Treasury, we explored tax issues and their relation to energy supply and demand. I would like to share with you today some of the things we have learned so far from the NES process.

First, business needs a stable financial climate in which to plan, invest, manufacture, and provide services. The time required to conduct R&D, to build plants, and to develop a market and infrastructure can be measured in decades. The tax regime affects these decisions and efficient investments will likely not occur if uncertainty about tax changes is high.

I would suggest that tax policy decisions should be made with a longer-term view. Annual extensions of tax benefits are of limited value because they provide no stability and do little to reduce investment risk. Incentives should be productive so that their effects will be able to reduce their cost.

Second, we should realize that while tax incentives or disincentives can have an impact, environmental goals can be pursued without reliance on the tax code. We can rely on a re-alignment of Federal priorities and on regulatory reform to support energy investments that are also beneficial to the environment.

Last month, I announced an 11-point Efficiency and Renewable Initiative which helps lay the foundation for a key element of the National Energy Strategy. By the year 2000, this initiative could produce cumulative savings to the Nation's economy of about $32 billion, from public and private conservation investments. With a minimal Federal investment, this initiative will bring about significant reductions in emissions of carbon dioxide, nitrogen oxides and sulfur dioxide and could reduce the need for an estimated 15,000 megawatts of new generation capacity.

Third, we must keep the connection between energy and a clean environment clear. Both energy and environmental goals need to be met. We cannot choose between the two. We should neither support a tax policy that discourages a needed energy source nor one that abuses the environment.

I will now address the subjects announced by the Committee, upon which you are seeking comment, and in which the Department of Energy has expertise.

USE OF TAX PROVISIONS TO ENCOURAGE CONSERVATION

Financial incentives can be used to reduce energy consumption and improve environmental quality. The Committee has specifically asked for comments on a number of energy tax measures: increasing motor fuel excise taxes, increased "gas guzzler taxes," subsidies for more fuel efficient motor vehicles, modification of employee parking subsidies, and subsidy of van pools and transit.

Motor Fuel Taxes

Only relatively large tax increases on motor fuel (gasoline and diesel) would have a significant impact on fuel consumption. DOE analyses indicates that a 25 cents per gallon tax could reduce motor fuel use by 4 to 5 percent. In the 1987 Energy Security Report, a 10 cent per gallon tax was estimated to reduce motor fuel use by just 2 percent. A recent Data Resources Incorporated (DRI) study estimates that a 50 cent gasoline tax can be expected to result in a 9 percent drop in consumption.

It is also doubtful that large increases of motor fuel taxes would lead to significantly higher automobile fuel economy. For example, countries in Europe and Asia, that have similar levels of income as the U.S., and substantially higher fuel prices, do not achieve higher new car fuel economy. U.S. new car fuel economy is about equal to that of Japan and Germany where fuel prices are about three times higher than in the United States. In sum, while an increase in fuel taxes would increase the cost of driving and raise revenues, it would not have a significant impact on fuel consumption and on fuel efficiency.

Taxes on Motor Vehicles

Current law provides for a large Federal excise tax on passenger automobiles with fuel efficiency below specified levels. The tax is $500 for autos that achieve below 22.5 mpg/gallon of gasoline and rises gradually to $3850 for cars that obtain less than 12.5 mpg.

This tax typically applies to very expensive luxury or sports cars that are produced in limited quantities. Increasing the severity of the tax, without increasing the fuel economy at which it applies, would increase tax receipts, but would have little effect on the demand for these vehicles. This is because high income purchasers of these cars are more influenced by non-economic factors than by price. Further, because there are so few vehicles subject to the "gas guzzler" tax, an increased tax would not measurably affect U.S. motor fuel consumption.

Incentives for Higher Occupancy Transportation

Financial incentives vary in their effectiveness at increasing average vehicle occupancy. Some incentives, such as subsidized car pools, van pools, and mass transit can stimulate use of higher occupancy modes of transportation. Other incentives are less effective. For example, lowering transit fares would not cause automobile users to switch to transit, if sacrifices in travel time or convenience are required.

Other methods to stimulate high occupancy travel can be more effective. For example, witnesses at our NES public hearing on transportation were in favor of more high occupancy vehicle (HOV) lanes. The establishment of HOV lanes stimulates car pooling, van pooling and use of express bus transit. Actions that significantly improve the level of service, especially if coupled with HOV incentives, could result in higher occupancy travel to work.

Consequently we do not favor use of tax policy as a way to increase high occupancy travel. Instead we favor priority treatment, by local jurisdictions, of high occupancy vehicles and improvements in transit service that will make this mode of travel the fastest and most convenient to use.

CLEAN FUELS

The Administration is pursing two major initiatives on clean fuels for transportation. The first is implementation of the Alternative Motor Fuel Act of 1988, which is well underway. This Act establishes a number of demonstration programs, incentives to produce alternative fueled vehicles, and several fact finding studies. This Act also established the Interagency Commission on Alternative Motor Fuels, which I chair, and an Advisory Council composed of four Congressional members and sixteen private and public sector representatives.

The Commission has been active in coordinating the programs required by the Alternative Motor Fuels Act and in overseeing the development of the several studies required by the Act. The Commission also has been collecting fuel, performance, and environmental data, and identifying policy issues that need to be resolved before recommending a national clean fuels policy. The Commission will issue progress reports in the Fall of 1990 and 1991, and its final report in September, 1992.

The Commission and the Council will address a number of issues of concern to this Committee. These include: the role of clean fuels in meeting environmental and energy security goals; ways to encourage the development of domestic clean fuels or imports from relatively secure suppliers; and ways to insure an economic and practical transition from the almost exclusive use of oil in transportation, to a more diverse and secure mix of fuels. I believe that it would be premature to recommend, at this point in time, any new tax policy initiatives for alternative transportation fuels.

The second initiative concerns the Administration's proposed amendments to the Clean Air Act. The President has proposed an innovative program for the phased-in introduction of clean fuels to reduce ozone levels in the nine most serious non-attainment areas. These fuels can include reformulated gasoline, methanol, ethanol, compressed natural gas (CNG), propane, electricity, and any others that would meet performance standards to be set by the Environmental Protection Agency. This legislation is currently being considered by Congress. I believe that this program will serve as a test of several clean fuel concepts, and could begin a transition phase in which the public becomes more familiar with clean fuels. With the experience and information that will be obtained from such a program, we will be in a better position to chart a longer term course.

USE OF TAXES TO COUNTER OZONE

Strategies to reduce ozone levels are similar to strategies for reduction of air pollution. However, reductions in ozone and carbon monoxide (the two major non-attainment pollutants) have special implications for the transportation sector, since this sector is a major source of these pollutants.

A system for regulating emissions can utilize either fees or standards and can be targeted at either actual emissions or indirectly, at fuel use. These are highly complex choices which depend on factors such as emissions source, nature of demand for energy services, and national economic goals. Costs and potential effectiveness of each policy should be carefully considered before a choice is made.

Setting the proper tax level to obtain a given level of emissions reduction requires knowledge of the responsiveness of emitters to the tax. In the case of mobile sources, it is difficult to establish where these emissions will occur. This makes the effects of a tax on ozone emissions impossible to determine at a given site. Thus, while an emissions tax would increase the cost of driving, and raise revenues, it is unlikely that it would actually change emission levels.

Because of the above noted problems with taxes, the Administration's proposed amendments to the Clean Air Act approach the control of ozone with a variety of regulatory and market tools to ensure cost-effective reductions. Stationary sources will have some flexibility to trade emission allowances so as to achieve more efficient reductions. Mobile sources are approached through technological standards and a clean fuels program. The Administration believes these approaches will more effectively reduce ozone-induced damage than the use of new taxes.

ENVIRONMENTAL EFFECT OF EXISTING FEDERAL TAX TREATMENT OF OIL AND COAL PRODUCTION.

Oil

The net effect on the environment of incentives for oil production is the difference between the environmental effect of oil imported by tanker and oil produced in the United States. Imported oil, because of possible spills and air emissions from tanker's engines, has a greater effect on the environment than is generally the case with oil produced domestically. While Alaskan oil is transported by tankers, oil production in the Lower-48 states is distributed to markets mainly through pipelines. Imported oil requires transport by tanker, and poses a grater risk to our waters and shores than domestic oil production. The world's tanker fleet spills three times as much oil per barrel handled than do U.S. offshore production facilities. Also, the median spill size from a tanker is more than twice the median spill size from U.S. offshore production.

Increased domestic oil production could provide both economic and environmental benefits. The economic consequences of imported oil are obvious. Net oil imports cost this nation $44 billion in 1989, and represent over 40 percent of our trade deficit. The President has submitted to Congress tax proposals to enhance domestic production. Reducing current and proposed incentives

for domestic production would therefore be adverse to the interests of the environment, because it would engender higher levels of imported oil

Coal

Coal production has a direct effect on the environment. Recognizing this, Congress, in the 1960's and 1970's, made numerous regulatory changes to respond to these concerns. The Clean Water Act addresses the impact of coal mining and cleaning on water quality. The Surface Mining Control and Reclamation Act requires surface mine operators to maintain certain environmental standards during mining and reclamation. It also requires underground mine operators to take measures to control land subsidence and other surface impacts.

Other important environmental issues relating to coal production that remain to be resolved include the effects of methane and fugitive dust emissions from coal mining. Technology is available to reduce methane emissions if necessary, but with added costs to coal production.

Environmental effects of coal consumption are being addressed through the Congressionally-mandated Clean Coal Technology (CCT) Program. This $5 billion effort, begun in 1986, involves the construction of facilities to demonstrate a new generation of less polluting coal burning processes. The private sector is providing over half the funding for the program whose objectives include finding ways to reduce emissions at the cheapest cost per ton. The CCT program will contribute to environmental quality by finding ways to reduce sulfur and nitrogen oxide emissions from coal combustion. It will also improve the efficiency of coal combustion, which reduces carbon dioxide emissions per unit of electricity produced.

SULFUR DIOXIDE AND NITROGEN OXIDES TAXES

Electric utilities account for about 70 percent of sulfur dioxide emissions in the U.S. and about 32 percent of nitrogen oxide emissions. The major source of nitrogen oxide emissions in the U.S. (about 43 percent) is the transportation sector.

Taxing emissions of sulfur dioxide and nitrogen oxide could reduce emissions of those pollutants. The difficulty with this type of tax is in accurately estimating the cost that such emissions impose on the environment so that the tax may be set equal to that cost. In addition, the environmental cost of these emissions would vary among regions and among emitters, thereby increasing the difficulty of accurately establishing the tax and administrative burden. Furthermore, it is difficult to project the size of an emissions tax that will assure the change in behavior necessary to obtain an actual reduction in emissions. As with a gasoline tax, an emissions tax will increase costs to consumers and raise revenues without producing significant emissions benefits.

A method of achieving similar results without imposition of an emissions tax is included in the Administration's Clean Air Act Amendment. This bill calls for an emissions cap on sulfur dioxide emissions by electric utility generating plants and allows trading of emissions allowances so that the required reductions are achieved at the lowest cost.

Under this allowance cap and trading mechanism, unlike an emissions tax, a desired level of emissions reductions is built into the program. Polluters cannot elect to pay the tax rather than reduce emissions, and consequently the results of the program are more certain. Market driven incentives assure the achievement of emissions reductions at the lowest possible cost. Therefore, we believe that the Administration's proposals are superior to an emissions tax.

With regard to the transportation sector, it would be extremely difficult to establish the level of taxation that would be imposed on auto and truck emissions, or on motor fuels, that would produce specific reductions in emissions. The level of such taxes could be significant, while their environmental effects could be marginal. We believe that the mobile source emission control provisions recently agreed to in negotiations between Administration and Senate leaders, will be more effective in reducing air emissions from transportation.

INLAND WATERWAY BARGE FUEL TAX

Section 4042 of the Code imposes an excise tax on liquid fuels used by cargo vessels operating on inland and intracoastal waterways. The basic tax rate, which is currently 11 cents per gallon, will rise to 19 cents per gallon by 1994, and to 20 cents thereafter. Additional increases to the current tax schedule would likely have the effect of decreasing the utilization of this mode of transportation, without substantially reducing water pollution. Nor is it feasible to establish a tax rate, above the current schedule of increases, that would guarantee a measurable environmental benefit. Furthermore, additional taxation could jeopardize the economic vitality of an industry already facing fuel taxes that are higher than those of other industries. Cleanup and damage recovery costs associated with accidents and abnormal operations, which result in pollutant spills or discharge, are already covered under a variety of existing statutes and regulations. These statutes will be further strengthened by the comprehensive provisions of the oil spill legislation that is currently being considered by Congress. We recommend, therefore, that no change be made to the current tax treatment of barge fuel.

SOLAR, GEOTHERMAL, WIND AND OCEAN THERMAL ENERGY

The President's FY 1991 Budget proposal does not recommend renewal of the present tax credit for solar, geothermal, and ocean thermal energy. We are, however, re-examining this issue in the context of the National Energy Strategy.

Tax credits for renewable energy sources have been modified several times since they were originally introduced in 1978. On several occasions the credits nearly lapsed, and in one case they lapsed and were reinstituted retroactively. These continual changes in policy have tended to increase investment risk in these technologies, which is the opposite of what was intended. Presently, the credits only apply to industrial scale solar, geothermal, and ocean thermal energy projects, and are due to expire in September, 1990.

The effect of these credits has been mixed. They stimulated the use of geothermal and solar thermal systems, particularly when coupled with state tax and other incentives. We now have over 280 MW of solar thermal power on line and 380 MW planned for the next 4 years. But the credits did not significantly affect the

development of photovoltaic solar cells, one of our highest priority solar technologies, nor did they materially impact ocean thermal energy development. These technologies were not close enough to market entry for the tax credit to be useful. Thus, the tax credits served to support only those renewable resources that were close to or already at a cost-competitive market position.

In other technologies, such as wind energy, the tax credits were inefficient. Inexperienced companies and insufficiently developed products entered the market at a rapid rate and many failures occurred. The credits were sometimes abused, and the short duration of their existence was insufficient to allow companies with good products to mature. Only a small percentage of U.S. wind turbines manufacturers survived the boom and bust cycle.

The Administration strongly supports the development of renewable energy technology. The 1991 Budget reflects this commitment by proposing a $170 million investment in these areas. This represents a 55 percent increase over the 1990 Budget proposal. In the National Energy Strategy, DOE will further examine options to stimulate the use of renewable technologies.

TAX CREDIT FOR UNCONVENTIONAL FUELS

In enacting Section 29 of the Internal Revenue Code, Congress intended to encourage the production of marginal U.S. energy resources. Currently the following fuels are eligible for the credit:

- Oil produced from shale or tar sands
- Gas produced from tight sands, coal seams, Devonian shale, geopressured brines or biomass.
- Synthetic fuels produced from coal.

Unconventional gas production has responded to the credit, and now makes up over 10 percent of all natural gas production. Tight sands gas production represents the bulk of all unconventional fuel production.

During the life of the credit, tight sands gas production has expanded 40 times from 40 bcf in 1979, to 1,413 bcf in 1987. In 1987, all other unconventional gas production totaled just 145 bcf. However, due to a 1985 FERC decision, upheld in 1988, over 90 percent of tight sands gas production has been ineligible for the credit.

The other fuels that have responded to the credit include coal seam methane and gas from Devonian shale. Current Devonian shale production is estimated to be about 100 bcf, mostly from deposits on the Kentucky-West Virginia border. The technology for extraction of methane from certain coal seams has improved significantly in recent years, allowing production to increase from just 10 bcf in 1985 to over 100 bcf today.

The production of unconventional oil, through use of the credit, has been less successful. A question has risen over the correct definition of tar sands under Section 29. The Department of Energy and the Internal Revenue Service are working with industry to resolve the issue.

The President's FY 1991 Budget does not recommend extension of the Section 29 credit. The Department of Energy is researching the overall costs and benefits of this credit and will pursue this matter, on an interagency basis, within the context of National Energy Strategy development.

For environmental reasons, natural gas is expected to play an increasingly important role in meeting this Nation's future energy needs. The EIA predicts natural gas consumption will rise 25 percent by the year 2000 to 22.9 tcf. The Section 29 credit has encouraged producers to more aggressively invest in exploration and production of conventional and unconventional gas resources (equivalent to the amount of imported oil transported by 200 large tankers each year). Because Section 29 provides a production credit, it is only paid to those who are successful in producing gas. This discourages the entry of unskilled operators into the market.

The Department is examining, in the context of NES development, ways of making credits such as Section 29, more efficient. It is our view that most unconventional gas projects will not be undertaken unless payback is achieved in five or six years. Credits received after the payback period do not influence the initial decision to undertake the project. We will also look into the effects these tax advantages have on investments in other more conventional gas resources. Another issue to be addressed would be the dollar per barrel level at which credits would be phased out. The current phase out prices of $38 to $48 per barrel do not reflect present and projected market conditions. Finally, it is clear, that year by year credit extensions are not very efficient. They force drilling activity into a short period, thereby raising costs and raising uncertainty. This uncertainty prevents some operators from responding to the credit.

Conclusion

In conclusion, I would underscore the Administration's commitment to policies that assure the Nation's requirements for economical energy and concurrently support U.S. environmental objectives. U.S. Fiscal policy should encourage the development of our energy resources without negatively affecting environmental quality. Tax incentives should be adopted only after careful consideration of the impact they will have on investment decisions. I would further emphasize that efficient investment decisions are unlikely to occur when tax policy is uncertain. And finally, I would urge the Committee to consider economic efficiency as a key criterion for judging tax proposals that signal changes in both environmental and energy policy.

U.S. Department
of Transportation
Federal Highway
Administration

Office of the Administrator

400 Seventh St., S.W.
Washington, D.C. 20590

Refer to:
HPP-13

March 20, 1990

The Honorable Dan Rostenkowski
Chairman, Committee on Ways and Means
House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

The Federal Highway Administration wishes to thank the Committee on Ways and Means for holding hearings on issues related to a long-term strategy on the environment. Since many of the issues discussed are of particular interest to the Federal Highway Administration, we would like to provide our views for your consideration.

As administrators of the Federal investment in the Nation's highway system we fully support the goal of improving the quality of the air we breathe, and we support the use of less-polluting motor fuels. Coupled with this support, however, is a major concern with the costs associated with using highway tax policy to promote the achievement of environmental goals.

Taxes on motor fuels are the backbone of the Federal highway tax structure, accounting for about 85 percent of the total Highway Trust Fund tax receipts. The Highway Trust Fund system of finance has long received support from highway users because it is deemed to be a fair and equitable way to pay the bill for meeting the Nation's most critical highway and bridge infrastructure needs. When some highway users are exempt from bearing a fair share of the highway tax burden, the very basis of support for the Federal highway tax structure is undermined. Highway tax exemptions may promote the use of gasohol, but they also reduce the flow of revenue into the Highway Trust Fund, draining needed revenues away from the highway program.

At your February 1 hearing, Deputy Federal Highway Administrator Eugene R. McCormick testified that the revenue losses associated with the tax exemption provided for gasohol, a 10-percent ethanol 90 percent gasoline mixture, are significant. From Fiscal Year 1981 through Fiscal Year 1988, the gasohol exemption drained $2.3 billion away from the Highway Trust Fund. In 1988, the revenue loss totaled approximately $480 million. Although the gasohol tax exemption is scheduled to end in 1993, some have advocated extending that exemption to the year 2000. Using the Treasury Department's projection of revenue losses that would be attributable to extension of the gasohol exemption, assuming the section 40 tax credit is not allowed for ethanol used to produce ethyl tertiary butyl ether, the cumulative amount of Highway Trust Fund revenues lost to highway users from 1981 through 2000 would total nearly $8 billion, a staggering loss of highway revenue at a time when the Nation is faced with the need to make the highway investments required to support economic activity in the 21st century.

As indicated by the list of items included in the hearing announcement, these hearings will provide you with valuable information about tax policy alternatives as they relate to the environment. While we are not addressing each of these issues specifically, we strongly recommend that when tax policy alternatives are considered their effects on transportation be given full consideration. One of the clearest messages we have heard in the many transportation forums that have been held around the country in the past year in connection with the Secretary of Transportation's National Transportation Policy effort is that an effective transportation system is critical to the continued economic health of the Nation. Across all transportation markets and all parts of the country, the most frequent comment heard was that the Nation needs to restore the condition of the transportation infrastructure and provide adequate capacity to meet transportation needs. The challenge facing all of us is to find a way to meet environmental goals without sacrificing the goals of mobility, industrial competitiveness, and economic well-being. The policy choices we face are not easy ones, but we must meet them without endangering the financial support needed for the Nation's highway programs.

In conclusion, I thank you again for holding these hearings on this most important policy area. We would be happy to provide you with any additional information you need about the potential consequences of highway tax policy alternatives.

The Office of Management and Budget has advised that there is no objection, from the standpoint of the Administration's program, to the submission of this report for the consideration of the Committee.

Sincerely yours,

T. D. Larson
Administrator

STATEMENT OF THE AMERICAN IRON AND STEEL INSTITUTE
TO THE
COMMITTEE ON WAYS AND MEANS
U.S. HOUSE OF REPRESENTATIVES
HEARINGS ON
LONG-TERM STRATEGY ON THE ENVIRONMENT
MARCH 6 AND 7, 1990

The American Iron and Steel Institute (AISI) is pleased to offer its views to the Committee on Ways and Means in response to the Committee's request for testimony involving the manner in which the Federal tax system could be used to improve our environment.

The American Iron and Steel Institute represents 40 companies involved in the production of steel in this country. Our member companies have a sincere interest in exploring all available means to improve our environment. The steel production process is difficult, costly, and by its very nature, potentially at odds with the environment. On the other hand, the product of the process is the world's primary industrial material with varied uses in almost every sector of the economy such that it represents the very demarcation between an industrialized and undeveloped economy in the countries of the world. Modern society simply could not exist without steel and even though it is a mature product that does not boast large growth, apparent steel consumption continues to grow in the world economy and is stable in this country. In 1989, 100 million tons of steel were used in this country of which 79 million tons were produced domestically. Therefore, steel is vital to the economy of the United States and its availability at an afffordable price has an ultimate effect on the quality of life of every man, woman and child in this country. The challenge before us is to balance the demands of modern society with the legitimate needs of the environment with full consideration for future generations and equitable distribution of the costs associated therewith.

The domestic steel industry has spent enormous amounts on pollution control and other environmental expenditures. Capital expenditures on water and air pollution alone have totaled almost $5 billion over the last 15 years. This represented about 15% of the total capital additions made by the industry during this period and almost 20% of the cash provided from operations. These are very significant expenditures that have had the desired effect of reducing the pollutants into the environment associated with the steel production process to present standards. However, the pending enactment of the Clean Air Act will significantly increase these costs as the industry will have to meet more stringent requirements at even greater costs in the years ahead.

The steel industry's major concern in the tax area has been and will continue to be capital formation. Our industry is very capital intensive. We have shared our concerns with you previously on the need for a capital formation system in this country that recognizes our international competitiveness position. The changes brought about in the Tax Reform Act of 1986, particularly those relating to depreciation in the alternative minimum tax, have placed us at a significant competitive disadvantage in this area relative to our foreign competition. Combining this with the high proportion of our total capital expenditures that have been and will continue to be spent on pollution control for which no economic return is earned, but for which depreciation rather than expensing is required, it should be apparent why we believe that changes in the tax system are needed as they relate to the environment.

We believe we have been very responsive to environmental concerns. However, to continue placing the entire burden of protecting the environment on the shoulders of the productive sector is unrealistic and short sighted considering the societal nature of the problem and our country's changing internatonal competitiveness position. The approaches of yest day will simply not work today. Costs that in past years were capable of being passed on, no longer can be. Costs that are levied on some producers, but not all, threaten delicate competitive balances. This is particularly true when the competitors are foreigners.

We believe the specific points outlined below need to be carefully considered in this regard:

1. The effect on this country's international competitiveness should be carefully considered with regard to any environmental proposal. The Executive Branch should develop assessments of the extent of environmental controls required by foreign governments to be installed and operated by their domestic companies. These should be compared with any requirements that might be proposed for U.S. domestic firms.

2. Appropriate consideration should also be given to competitive differences within this country between alternative materials and industries to the extent possible so as to not cause unintended product dislocations caused solely by the tax system.

3. Increased recognition should also be given in the tax system to the fact that pollution control expenditures generally do not assist in income generation or provide for an economic return on investment. They are truly nonrecoverable sunk costs. Accordingly, expenditures which do not contribute to income or otherwise allow for the costs to be recovered in the normal course of operation of the equipment should be permitted immediate expensing. This is especially true for new expenditures that may be required under the Clean Air Act as it is now being debated. These expenditures will create incremental income for other taxpayers involved in environmentally related businesses. Providing a full deduction for those required to comply with law merely maintains the status quo with no resultant revenue gain or loss to the Treasury. Without this, the government actually gains revenues in the short term due to the full income being taken in by the environmental equipment supplier but the smaller depreciation deductions permitted to the purchaser. Fundamentally, government should not reap a windfall through its own regulation.

   At a minimum, 60-month amortization of certified pollution control facilities should be retained and liberalized. In addition, this same treatment should be permitted for purposes of the alternative minimum tax rather than requiring the facilities to be depreciated under the Alternative Depreciation System. This effectively requires these expenditures to be depreciated over 15 years in the steel industry for costs that provide no economic benefit and are effectively period costs in the first year.

4. As a general rule, we do not believe the tax system should be used to levy penalties or be converted into an environmental enforcement system. If the tax system is used at all, it should be to provide incentives to taxpayers to move in the desired policy direction. In addition, if the tax system has a place in attempting to modify behavior or solve societal problems, it should be as broadly based as possible with the entire system supporting the societal subsidy. If it is not a societal problem, the tax system should not be used. Thus, for example, it is preferable to provide an incentive for recycling than to penalize those that do not. If it is determined that recycling is a desirable societal goal, it only makes sense that a portion of the costs associated with converting to recycling should be borne by society generally rather than penalize those that are not recycling due to decisions and investments made in the past. We believe a useful method to spread these societal costs is through the use of tax credits to those making the necessary investments. This would be appropriate for both investments necessary to comply with new regulations (Clean Air Act) or to modify existing behavior (recycling).

   To the extent that tax credits are considered, it should be borne in mind that the steel industry is generally still carrying forward net operating losses from prior years. This may result in an uneven distribution of the benefits based solely on past events. The steel industry or individual companies in the industry may be disadvantaged because of their past burden that has no relationship to current circumstances. In addition, the alternative minimum tax does not allow for the full utilization of tax credits. Therefore, if credits are used as a means to spread these societal costs, they should be able to be used in full against the alternative minimum tax and a refundable feature should be considered to ensure that the full intended benefit is derived by all similarly situated taxpayers.

5. Finally, penalizing the use of all virgin raw materials would impair the development of new steel products and desirable, environmentally sound technologies. Virgin iron material provides the weight, strength and purity in steel which users increasingly demand for safe and efficient products. Metallurgical integrity often requires new iron, even in conjunction with recycled material. An additional cost of steel production will further erode the competitiveness of both steel and ultimate products in world markets as well as impair environmental protection efforts presently under way.

   Furthermore, any new tax whose objective is to reduce utilization of ore would necessarily be at the expense of mining employment. These jobs support an already fragile economy in a remote region.

We appreciate the opportunity afforded us to present our views and remain interested in working with the Members of the Committee as you continue to study this issue and consider possible legislation in this area.

STATEMENT

OF THE

AMERICAN MINING CONGRESS

TO THE

COMMITTEE ON WAYS AND MEANS

UNITED STATES HOUSE OF REPRESENTATIVES

MARCH 19, 1990

The American Mining Congress is an industry association representing (1) producers of most of America's metals, coal, industrial, and agricultural minerals; (2) manufacturers of mining and mineral processing machinery, equipment and supplies; and (3) engineering and consulting firms and financial institutions that serve the mining industry.

The stated goal of the hearing is to explore long-term strategies on the ways in which the federal tax system could be used to improve the environment. We appreciate the opportunity to share our views and concern on this subject with the Committee.

In conducting its operations, the mining industry is committed to the protection of public health and the environmentally responsible management of the natural resources that are utilized. National environmental policy should center on achieving these goals, while recognizing that attainment of other equally important societal goals requires a vigorous domestic mining and minerals processing industry.

Major new environmental programs, be they regulatory or tax oriented, should be adopted only upon the certainty that they will reduce unreasonable risk to public health or the environment. Congress should balance competing societal goals when reauthorizing existing laws and adopting new environmental programs, so that the cumulative costs, including the effects on the international competitiveness of American industries, are commensurate with the intended reduction in risk. In any such consideration, it must be kept in mind that the mining industry must compete in the international marketplace and, as such, it cannot pass through additional costs to its customers.

On policy grounds AMC believes that using the federal tax code to influence significant changes in the environment is a methodology Congress should avoid. The tax code is too blunt an instrument to address the myriad of environmental issues facing the country. Environmental matters and concerns vary from region to region. Solutions to environmental concerns are often site-specific. Uniform national requirements mandated by the tax code would act as too rigid a framework to be molded to fit regional and local needs.

We are also concerned that environmental policy will get caught up in, and be held hostage to, the calculus of deficit reduction. The Committee must resist the temptation to be seduced by the revenue producing aspects of proposed environmental taxes. The first and foremost consideration must be on how well a proposal will achieve specified environmental goals, not how it will facilitate meeting deficit reduction targets. The stakes for industry and the American consumer are simply too great for the process to be revenue driven, which we believe is the current force behind recent tax legislation.

Recent proposals to tax sulfur dioxide and nitrogen oxide emissions illustrate these concerns. Proposed excise taxes on emissions are structured solely on their ability to generate

revenues. The proposals do not specify what environmental standards are to be achieved and do not consider regional differences and needs.

We also see no equitable means of Congress or other agencies to determine the proper level of such taxes. A rate set too high will cause economic disruption and hardship and efforts to lower the rate would be held hostage to the deficit reduction debate. Conversely, a tax set too low would benefit only the tax collector while yielding little environmental gain.

Environmental issues should be discussed on their own merits, within the context of environmental legislation. While these matters cannot be considered apart from their impacts on employment and American industrial competitiveness, they should not be made a part of tax debates that are often driven by deficit reduction concerns.

Certain groups have characterized provisions in the Internal Revenue Code relating to mining as "subsidies" and detrimental to the environment. AMC strongly disagrees with this view. The tax treatment accorded natural resources is intended to recognize and properly address the unique nature of mineral deposits and the extractive industries. The effect on environmental quality is minimal.

We strongly support resource conservation and wise disposal practices but we cannot support artificial mechanisms, such as excise taxes on the use of virgin materials to force recycling or conservation. These approaches would distort markets and impose arbitrary costs on American industry and consumers.

An excise tax on virgin materials, such as the one proposed in Representative Lukens bill H.R. 3737 would impose new costs on Americans without clearly defined objectives benefiting human health or the environment. For such a tax to operate effectively a level of knowledge is required that simply does not exist regarding the intended and unintended consequences of a particular level of tax. All that can be said with certainty is that the cost of the tax will fall upon the producers, industrial users and ultimate consumers of the specified material, while the benefits, presumably in terms of increased recycling, are entirely unpredictable.

Some wildlife groups have proposed that a ten percent ad valorem tax be imposed on all minerals extracted from public domain lands under provisions of the General Mining Law. Proponents contend that lack of royalty payments deprives the U.S. Treasury of significant revenues and encourages environmental damage to the public lands.

We believe these concerns are well and adequately addressed by existing law. On the royalty issue, we believe the public receives a better return under current law through greater domestic production and the industry's ability to economically mine lower grade ores. Any royalty would lower margins and severely limit the ability of small exploration ventures to develop mineral deposits. A reduction in mining on public lands will cost jobs and erode the tax base of many state and local governments.

With regard to environmental damage, reclamation of mined lands is required nearly everywhere under state law. The Environmental Protection Agency's development of mine waste regulations with an expressed goal of "filling regulatory gaps," as well as the evolution of federal and state groundwater controls, inevitably will lead to additional reclamation requirements. Activity on public lands is well regulated pursuant to the Federal Land Policy and Management Act by the federal land managing agencies. If there are reclamation deficiencies, they are attributable to insufficient enforcement and not to insufficient legal authority. In no way is reclamation an issue that should be, or needs to be, addressed via changes in federal tax policy.

Some have suggested that the fee for patenting a mining claim is too low. Such a suggestion ignores the fact that mining companies invest vast amounts of money in exploring for and developing an orebody. These orebodies are not "free for the taking." The fee for obtaining a patent is simply not indicative of the money that is spent in the high risk business of exploring for and developing of mineral deposits.

In short, where environmental issues are concerned, particularly those involving the mining industry, the federal tax system is an entirely inappropriate method of addressing those issues. States and federal land managing agencies are already empowered to require reclamation work. States are developing their own groundwater protection requirements entirely separate from any tax code alterations. The federal EPA is developing a mine waste regulatory program that will address how our industry manages its wastes. All these efforts are focusing on specific concerns without the distraction and confusions that would be engendered by attempts to hammer out environmental solutions via the federal tax code.

Those who argue for using the tax code to force environmental change should re-focus their own efforts on the debates and discussions underway concerning these various governmental efforts to develop appropriate environmental policy. Advocates of tax changes for environmental reasons are enamored with a uniform national system that does not and cannot reflect the reality of our country's environmental needs. Their demands that the tax code resolve environmental concerns should be resisted by the Committee.

The American Waterways Operators

Executive Offices

1600 Wilson Boulevard
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Tel 703 841-9300

Joseph Farrell
President

March 14, 1990

Honorable Dan Rostenkowski, Chairman
Committee on Ways and Means
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

The American Waterways Operators (AWO) represents the inland and coastal barge and towing industry. On behalf of our membership, I ask that this letter to be included as part of the record in connection with the Committee's hearings on environmental tax issues, held March 6, 7 and 14, 1990. Among the many items listed for consideration in these hearings is the impact on water pollution of an increase in the inland waterway fuel tax. At the outset, I want to state that AWO opposes any increase in the inland waterway fuel tax beyond that mandated by P.L. 99-662.

The inland waterway fuel tax was originally established in P.L. 95-502 as an escalating tax on diesel fuel used on 26 segments of the U.S. inland and intercoastal waterway system. These taxes are deposited in the Inland Waterways Trust Fund and available, as appropriated, for navigation-related construction and rehabilitation expenditures on those waterway segments. This tax will double under P.L. 99-662, the Water Resources Development Act; the first increment of this new increase went into effect on January 1, 1990. The tax will escalate each year until it reaches 20 cents per gallon on January 1, 1995, under the schedule developed by your Committee and the Senate Finance Committee.

The inland waterway fuel tax is paid regardless of the product under tow. In fact, towing vessels must pay this tax on fuel consumed whether or not the barges being moved are loaded or empty. Any increase in the tax will affect the price of all cargo shipped on the waterway system, including coal, grain, chemicals, petroleum and petroleum products, iron and steel, sand and gravel, and other commodities essential to domestic consumption and for export.

The level and the timing of the inland waterways fuel tax increase was carefully developed by Congress and the Administration, in consultation with the domestic water transportation industry. Increasing the tax beyond that level authorized in the Water Resources Development Act has the potential of diverting to rail, truck or pipeline not only those commodities which can pollute our waterways but all bulk commodities shipped by water. We believe that there is no correlation between increasing the tax and reducing water pollution. Nor would AWO support the imposition of an "environmental" tax on marine transportation. It is our view that imposition of a high standard of care on transporters, increasing penalties contained in pollution statutes to provide a greater incentive for care without being unreasonably punitive, and effective standards aimed at maximizing prevention will reduce the likelihood of spills.

AWO believes there is a larger issue beyond "environmental taxes." For several years, AWO has publicly condemned user taxes or user fees as a form of taxation without representation. What the federal government does by promoting the proliferation of these taxes is to exact payments from small, and in many cases politically vulnerable, sectors of the American economy, one at a time. In so doing, the federal government forecloses the right Americans expect for full public debate before taxing its citizens. Rather than unfairly wounding the economy with a thousand cuts, far better for the federal government to raise from citizens and corporations the money to fund programs important to the welfare of this nation. Your recent, admirable proposal for deficit reduction makes sense as public policy, we believe.

In conclusion, AWO applauds your Committee's examination of environmental issues in the context of the long term. So many times legislation is enacted solely in the context of short term solutions which prove incomplete, and therefore, flawed.

We would be happy to meet with you or your staff at any time to discuss our comments in greater detail, if that would be helpful to you.

Sincerely,

Joseph Farrell

cc: Members, Committee on Ways and Means

WRITTEN STATEMENTS

OF

ARKLA EXPLORATION COMPANY

COMMITTEE ON WAYS AND MEANS
U. S. HOUSE OF REPRESENTATIVES

CONCERNING
LONG-TERM STRATEGY HEARING ON THE ENVIRONMENT

February 6, 1990

Arkla Exploration Company (AEC) appreciates the opportunity to call to your attention and propose a solution to the unintended effect that the decontrol of natural gas may have upon the Section 29 Non-Conventional Fuels Credit for tight sands formation gas (the credit). We fully supported the decontrol of natural gas under the Natural Gas Wellhead Deregulation Act of 1989 (Decontrol Act). However, the Decontrol Act may be applied to wipe out the credit despite the intent of Congress to continue the credit.

In reliance on Section 29 of the 1986 Tax Code as currently written, AEC and several other companies began programs to drill wells in east Texas through December 31, 1990 based on economics provided by the credit. These wells qualified for the credit under existing tax law because they remained "price regulated" under the NGPA (Section 103 wells dedicated to interstate commerce on April 20, 1977). The credit on these wells could now be unintentionally repealed up to 8 1/2 years early when the Decontrol Act removes price regulation of that gas.

Decontrol May Inadvertently Cut Credit Short

The purpose of the credit is to afford an incentive to encourage the development of expensive and economically poor domestic tight gas sands. The credit is available up to January 1, 2001 on tight gas that is "price...regulated by the United States." See Section 29 (c)(2)(B)(i). The problem created by the Decontrol Act is that price regulation will now end on May 15, 1991 (for wells spudded after enactment) or January 1, 1993 (for all other wells spudded before enactment). The tight sand credits could therefore cease with decontrol up to 8 1/2 years before scheduled to cease on January 1, 2001 under Section 29. Producers that based their decisions to drill on the availability of the credit are now facing significantly changed conditions because the credit may be unintentionally cut short by the Decontrol Act.

Strict application of the Decontrol Act would also result in creating an unintended and artificial distinction between wells drilled before and after its enactment. Wells drilled after the Decontrol Act (new wells) will decontrol May 15, 1991, while wells drilled before the Decontrol Act (old wells) will decontrol January 1, 1993. If not clarified, this artificial distinction between old and new wells would result in unjustly taking 1 1/2 years off the credit for new wells without reason.

AEC does not believe that Congress intended to cut the credit short for companies relying on the current tax law. Congress' intent not to cut the credit short is demonstrated by (1) 1988 amendment to extend the credit and (2) the Senate Energy Committee report stating that approval of the Decontrol Act should not "reflect an adverse judgment by the committee as to the merits of the tax credits...."

Not a Martin Solution

Nationally, production from most tight sand wells does not qualify for the credit because they are not price regulated as decided by the U.S. Supreme Court decision in FERC v. Martin. Under Martin,

gas that qualifies under the NGPA as both regulated and deregulated is deemed deregulated. Some production (like AEC's) that remained totally price regulated was not affected by the Martin decision.

Absent the Decontrol Act, some tight sands gas remains price regulated, and therefore remains eligible to obtain the credit under Section 29 as it currently exists. The amendment proposed below will only affect wells that remain totally price regulated and qualify for the credit under existing law.

AEC also supports the position taken by others that the credit should not be conditioned on price regulation. The real issue should be whether market prices are sufficient to encourage development without the credit. However, the amendment being proposed by AEC below does not address the problems raised by the Martin decision. Our proposal will not restore the tax credits lost under the Martin decision, but will simply continue the credit only on wells that remain price regulated under current tax law.

No Additional Tax Burden By Continuing Existing Law

The proposed amendment does not create an additional burden on the Treasury. No new categories of gas are made eligible. The wells excluded by the Martin decision are not restored with the credit. No additional incentives would be created for producers. Our proposal would simply continue the credit as it exists absent the Decontrol Act.

Only a limited number of wells that remain price regulated would be affected. No additional amounts would be added to the budget because the credit was already budgeted under existing law. The proposed amendment keeps the credit in place for companies and the government as it was intended, absent the Decontrol Act.

Proposed Amendment

Section 29 (c)(2)(B)(i) of the 1986 Internal Revenue Code is revised to read:

> Section 29. Credit for producing fuel from nonconventional source.
>
> * * * * * * *
>
> (B) Special rules for tight formations. The term "gas produced from tight formation" shall only include --
>
> (i) gas the price of which is regulated by the United States or would have been regulated by the United States under the laws in effect immediately prior to the enactment of the Natural Gas Wellhead Deregulation Act of 1989 had such act not been enacted. (Amendment underlined).
>
> * * * *

Summary

This amendment is needed to remedy the unintended effect of the Decontrol Act possibly eliminating the tight sands credit up to 8 1/2 years and to eliminate the artificial distinction between wells drilled before and after the Act. The proposed amendment will not add additional revenue burdens on the natural gas industry or the government. This proposal will not restore the credit to wells affected by the Martin decision. It simply preserves the credit as it existed absent the Decontrol Act.

Respectfully submitted: ARKLA EXPLORATION COMPANY

By: C. Randall Loewen

C. Randall Loewen
General Attorney
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AUTOMOBILE IMPORTERS OF AMERICA, INC.
1001 19TH STREET NORTH, SUITE 1200 • ROSSLYN, VA 22209 • (703) 525-7788 • RAPIFAX (703) 525-8817

March 16, 1990

STATEMENT OF THE

AUTOMOBILE IMPORTERS OF AMERICA, INC.

GEORGE C. NIELD, PRESIDENT

SUBMITTED TO

THE COMMITTEE ON WAYS AND MEANS

UNITED STATES HOUSE OF REPRESENTATIVES

IN CONNECTION WITH ITS HEARINGS ON THE ENVIRONMENT

MARCH 6 AND 7, 1990

The Automobile Importers of America, (AIA), is a non-profit trade association that represents U.S. companies which import passenger cars and light trucks for sale in this country.[1] The AIA member companies sell vehicles manufactured in Brazil, Canada, England, France, Germany, Italy, Japan, Korea, Sweden and the United States. This fact affords AIA a unique world view of the role of the motor vehicle in the environment.

Because of its strong concern about environmental impacts and particularly the need to protect the ozone layer, AIA did not object when this committee imposed substantial fees last year on chlorofluorocarbons and other ozone depleting chemicals. Moreover, AIA member companies have committed to the elimination of these chemical substances at the earliest possible date, some as early as the 1992 model year.

A growing concern over the potential impact of "greenhouse gases" and their contribution to global warming has led to proposals for radical increases in corporate average fuel economy (CAFE) requirements. AIA has opposed such proposals for two principal reasons. First, they are unfair because they single out new car purchasers to bear all the burden. Second, increasing CAFE requirements is simply not a cost-effective or economically practical approach to reducing greenhouse gases. At best, it would prove to be marginally effective, but at great cost to society. A more equitable and cost-effective approach would be to create market place incentives affecting all users of fuels that produce carbon dioxide emissions. In addition, all users can be influenced more immediately than if a program is limited to the purchasers of new cars.

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[1] AIA's members include: BMW of North America, Inc.; American Honda Motor Company, Inc.; Hyundai Motor America, Inc.; Isuzu Motors of America, Inc.; Jaguar Cars, Inc.; Maserati Automobiles, Inc.; Mazda Motors of America, Inc.; Mitsubishi Motor Sales of America, Inc.; Nissan Motor Corporation U.S.A; Peugeot Motors of America, Inc.; Porsche Cars North America, Inc.; Rolls-Royce Motor Cars, Inc.; Rover Group USA, Inc.; Saab-Scania of America, Inc.; Subaru of America, Inc.; American Suzuki Motor Corporation; Toyota Motor Sales U.S.A., Inc.; Volkswagen of America, Inc.; and Volvo North America Corporation.

A tax on gasoline or diesel fuel, or even a broader based tax on the carbon content of all fossil fuels, is such a market place incentive. When considering any incentive to reduce the production of "greenhouse gases", two points must be borne in mind. First, the extent to which greenhouse gases will cause an increase in "global warming", and, if so, the timing of that increase, are highly controversial subjects in the scientific community. The only general agreement is that the data at this time are inconclusive and a great deal more additional data must be obtained.

Second, if it is concluded that significant global warming will occur, then any solution must take into account world-wide sources of greenhouse gases. Motor vehicles in the United States produce only about two and one-half percent of world-wide greenhouse gases. Indeed, motor vehicles world-wide represent only five percent of world-wide greenhouse gases. Thus, without a global approach which includes all sources there will not be a truly meaningful reduction.

In response to this growing concern, AIA commissioned a study by Boston University's Professor Robert Leone, a leading economist, to investigate and prepare a report on regulatory strategies to control vehicle fuel consumption. While that report is not yet complete (a copy of the final version will be furnished to the committee), Professor Leone's principal conclusions and findings are presented below.

Command and control regulatory requirements, such as CAFE standards, are not a cost-effective way to save gasoline or otherwise contribute to the advancement of the Nation's environmental objectives. A gasoline tax or a carbon fee can readily achieve the same objectives at much lower cost to society.

Professor Leone's analysis suggests that CAFE requirements have only increased the average fuel economy of the new car fleet by about 1-1.5 mpg since their inception in 1975. In contrast, higher gasoline prices during this same time period increased that average fuel economy by approximately 12 to 13 mpg. Professor Leone estimates that a 2 cent/gallon gasoline tax would have saved as much gasoline as the present CAFE regulatory standard -- at about half the cost to society.

How can a gas tax be so much less costly to the society than command and control regulations? The answer is simply that taxes are imposed directly on the energy source. Thus, a tax on gasoline discourages gasoline use because the consumer cannot escape the tax without using less gasoline. In contrast, a consumer can escape the impact of CAFE regulation without saving gasoline. He can switch from cars to light trucks or vans, keep older, less fuel economic vehicles on the road longer, or simply drive more miles.

If effective, higher CAFE levels actually lower the cost of driving a mile. Ironically, however, when the cost per mile drops, consumers want to drive more, want to drive older, larger cars, and even drive at higher speeds -- all with negative environmental consequences.

While each of these effects, by itself, is relatively small -- drivers might drive another 75 miles per year, drive a compact instead of a subcompact, and drive on the highway at 56 mph instead of 55 -- cumulatively, they become significant. Thus, from the national perspective, Professor Leone's study demonstrates that regulation is not a cost-effective way to reduce gasoline use.

Unfortunately, while research clearly shows that energy taxes reduce energy use, there is an all-too-common belief that gas taxes have no impact on fuel use. Professor Leone's study acknowledges that a small tax has a small impact; but, the impact is unambiguous: higher gas taxes mean less fuel use.

Because consumers like to drive their automobiles and are not easily induced to consume less fuel, command and control regulatory standards such as CAFE requirements must greatly constrain consumer preferences to yield only a small benefit to society. There is considerable social cost and economic inefficiency associated with these types of regulatory interventions.

Unlike a command and control regulation, a gasoline tax also has the virtue that the revenue generated by the tax is not wasted in evasive actions by consumers, but instead becomes available to the government. Whether this revenue is returned to taxpayers or spent, it is not lost -- hence, a tax tends to be far more cost-effective than a regulatory standard.

The same analysis that shows that a gasoline tax is preferable to a command and control standard suggests that a broader based energy fee, such as a carbon tax, is superior to a gasoline tax. The reason is simply that the broader the base of the tax the more market forces that are triggered. Moreover, the broader the base, the lower the tax can be. With a lower tax, the economic inefficiencies inevitably associated with any tax are more likely to be minimized.

In 1975, when command and control mechanisms were first put in place, the primary opportunity for achieving greater fuel economy was technology. Short of drastic downsizing, most of the available technology identified by proponents of CAFE increases is already in place. Today, the barrier to further increases in fuel efficiency is consumer resistance to the smaller, less useful car designs that could be necessary. Taxes simply do a better job than regulatory standards at affecting consumer behavior, because they work directly on the energy source itself, not indirectly on the technology of the automobile. Moreover, to the extent that any technical barriers to improved fuel economy remain, a tax on fuel use, by encouraging consumers to purchase more fuel efficient cars, would send automakers a clear signal as to where they should devote their R&D dollars.

If consumers ask for one thing but Washington demands another, the result is uncertainty, higher cost and confusion for both consumers and automakers. If Washington gives consumers a clear and direct signal through a gas tax, the signal to both consumers and producers is clear and unambiguous. There is then no uncertainty or confusion, and, as a result, costs are lower.

Many who acknowledge the potential of gasoline taxes for helping the environment are concerned that taxes may have a disproportionate burden on lower income groups. The concern is legitimate; there is no escaping the fact that gasoline taxes will affect low income people. But regulatory standards affect them as well. Thus, when CAFE standards drive up the cost of new cars and encourage new car buyers to keep their old cars longer, this increases prices in the used car market. There is simply no reason to believe that a tax is more burdensome to the poor than command and control regulation. To the contrary, since a tax generates revenue which can be applied to ameliorating any negative impact on the poor, a tax is generally to be preferred to regulation.

Further, it may be useful to put into perspective the impact of an appropriate fuel tax in comparison with other expenses of auto ownership. A five cent per gallon gasoline tax would increase the cost of driving a car by about twenty-five dollars per year -- an amount about equal to the cost of an oil change. For comparison, the cost of insurance and finance charges alone on a typical four-year-old used car would exceed $1800. For new car buyers, who, according to the American Automobile Association now pay approximately $5000.00 per year for the privilege of owning a new car, such a five cent tax would amount to a one-half of one percent increase.

Others who acknowledge the potential environmental benefits of energy taxes express concern that these taxes will affect the international competitiveness of U.S. industries. Again, there is no escaping the fact that gasoline or carbon taxes will affect U.S. competitiveness, but command and control regulations affect them as well. And because such regulations are less cost-effective to the Nation as a whole, they tend to detract more from competitiveness than do taxes.

In sum, Professor Leone's study shows that more stringent command and control regulations simply mean a disproportionate burden on society. To achieve a cost effective reduction in gasoline use, marketplace incentives, such as a gasoline tax or carbon fee, are necessary.

In its press release of February 1, 1990, the committee identified a number of other possible subjects for a "environmental tax". AIA will address three of these.

Modification of the "gas guzzler" excise tax

AIA believes that the current gas guzzler tax rates should not be increased. If gasoline prices increase, consumers will move away from less fuel economic vehicles resulting in the effect that is intended -- but not achieved -- by gas guzzler fees. In particular the tax does not relate to the consumption of fuel once a vehicle assessed a gas guzzler tax is purchased. That is, since the tax has been paid, there is no deterrence for future consumption of fuel.

Tax on sulfur dioxide and nitrogen oxide for acid rain control

To the extent any tax is considered for NO_x as part of an acid rain control strategy, it should not be applied to motor vehicles. Motor vehicle standards contained in the Clean Air Act, as well as proposals now before Congress and likely to be adopted, are extremely stringent technology-forcing standards. If emissions are reduced to the level technologically feasible, vehicle manufacturers should not be penalized by a tax in addition to the costs already expended in meeting the tailpipe standards, when further reductions cannot be achieved.

Means by which the Federal tax system can encourage the production of alternative fuels

If alternative fuels are to be successfully implemented, they must be priced to assure their use by consumers. For example, since a car fueled on methanol will only go about half as far on a tankful of fuel compared to gasoline, methanol would have to be about half as expensive to cause consumers to purchase methanol instead of gasoline. Without such a strategy to provide price incentives to the consumers, it is unlikely that those who purchase a flexible fuel vehicle will choose to use an alternative fuel that requires

more frequent refueling stops and has a price equal to or higher than gasoline.

In summary, AIA believes that selective use of market incentives is a positive method to achieve environmental goals and is preferable to command and control regulations. At the very least, actions taken should apply to all the vehicles in use so that consumers are not inhibited from purchasing newer, more efficient vehicles (similarly, tax policies should not encourage consumers to continue to drive older vehicles). EPA has estimated that there would be a 25 percent reduction in HC emissions from an immediate and complete turnover of the vehicle fleet. Policies should aim at increasing, or at least maintaining, fleet turnover rates -- not allowing them to decrease as is the current trend.

TESTIMONY OF

ROBERT B. CATELL
President & Chief Operating Officer
THE BROOKLYN UNION GAS COMPANY
Brooklyn, New York 11201

INTRODUCTION

This testimony is provided to assist the U.S. House of Representatives Committee on Ways and Means in the consideration of how the Federal tax system could be used to improve the environment. Specifically, it responds to the request made in the Committee on Ways and Means Press Release #23, dated February 1, 1990.

By way of background, Brooklyn Union is a diversified energy company with headquarters in Brooklyn, New York. Its principal business is retail natural gas distribution to a population of over four million people in three of New York City's five boroughs; Brooklyn, Queens, and Staten Island. We serve over one million residential and small commercial customers who depend on Brooklyn Union for firm, reliable service. We are committed to developing new markets in cogeneration, gas air conditioning, natural gas vehicles and solid waste disposal all of which can contribute significantly to improvement of our environment. Brooklyn Union's service territory is located in one of the air quality nonattainment areas.

SUMMARY OF RECOMMENDATIONS

Brooklyn Union recommends that the Committee on Ways and Means:

- act quickly to pass the "Alternative Fuels Incentive Act" (H.R. 2269) to provide air quality credits to reduce mobile emissions,
- consider the imposition of an "environmental assessment" or increase in gasoline and diesel fuel taxes to reflect their environmental degradation costs in their retail prices,
- consider other Federal incentives to enhance the domestic production of natural gas which is less deleterious to the environment than other fuels, and
- encourage state and local authorities to revise their tax policies to allow natural gas to compete evenly with other energy forms, such as fuel oil.

ENVIRONMENTAL QUALITY

There have been substantial improvements in air quality in most parts of the country as a result of nearly twenty years of Federal attention to local environmental problems. Nevertheless, some distressing conditions still exist:

- Nearly 100 million people in the United States remain exposed to excessive smog levels, and
- About 80 urban areas still lack adequate local plans to reduce harmful emissions.

ROLE OF NATURAL GAS

Natural gas should provide the cornerstone to any national policy which has improving the environment as one of its goals. Natural gas can significantly reduce harmful atmospheric emissions compared to other major fuels. It is therefore a strategic resource critical to long-term plans and solutions of the increasingly serious problems of "acid rain," the "greenhouse effect" and air pollution, including smog.

Natural gas consists primarily of methane, the simplest hydrocarbon, having the highest ratio of hydrogen to carbon. Therefore, it produces almost none of the hydrocarbon emissions that contribute to smog formation. Gasoline and diesel-powered motor vehicles emit a large portion of these noxious hydrocarbons and an even larger portion, about three quarters, of all harmful carbon monoxide (CO) into our nation's atmosphere. Natural gas produces less than half the carbon monoxide that oil does and between one-fifth and one-half the amount that coal produces. Gasoline, oil and coal also produce more nitrogen oxide, another contributor to smog production, than natural gas.

The difference between natural gas and other fossil fuels in the emission of sulfur dioxide (SO_2), the chief cause of acid rain, is even more dramatic. Sulfur dioxide is the major precursor to acid deposition or "acid rain". Coal combustion accounts for 68 percent of total SO_2 emissions, oil for 11 percent and natural gas for less than 1 percent. In 1981, some 80 percent of the particulate matter released to the atmosphere by fuel combustion was attributable to coal-fired boilers, wood burning fireplaces and stoves, and highway vehicles. All applications involving natural gas combustion contributed only 1 percent. Clearly, then, natural gas has a major role to play in improving the quality of our inland waterways and vegetation, as well as our air. Further, natural gas is transported cleanly and efficiently in underground and underwater pipelines. By replacing other fuels, natural gas can also mitigate the greenhouse effect, whose principal cause is believed to be carbon dioxide (CO_2). Natural gas emits only 60 percent as much carbon dioxide as coal and 80 percent as much as oil per unit of heat.

Following is a chart showing the relative loading of SO_2, NO_X, and CO_2 for various fuels:

Fuel	Percent Sulfur	Btu/lb	Pounds of Pollutant per million Btu		
			SO_2	NO_X	CO_2
Natural Gas	<0.01	21,000	0.006	0.3	131
Distillate Oil	0.2	19,500	0.2	0.1	162
Residual Oil	1.5	18,600	1.6	0.3	169
Coal	2.1	12,500	3.4	0.6	220
Propane	<0.01	21,000	0.002	0.1	139
Wood	0.1	8,500	0.02	0.2	216
Municipal Waste	0.2	6,000	0.6	0.4	171

ROLE OF THE FEDERAL TAX SYSTEM

The Federal tax system should be used to directly or indirectly influence the use of clean-burning fuels in stationary and mobile applications. It should focus this influence on both the supply and utilization of such fuels. The following sections of this testimony discuss the initiatives that the Committee should undertake to improve the environment.

FEDERAL TAX INITIATIVES

Brooklyn Union supports the "Alternative Fuels Incentives Act" (H.R. 2269) which will improve the quality of the environment. The bill's tax incentives for:

- a 20 percent tax credit for equipment to convert a vehicle so that it may run on a clean-burning fuel,
- a 20 percent credit for refueling station equipment directly related to delivering a clean burning fuel into the fuel tank of a vehicle,
- a 20 percent credit for the fuel system of a new vehicle produced to run only on a clean burning fuel, and
- credit equivalent payments for state and local agencies

should enhance the use of alternative fuels. They should make the achievement of the Clean Air Act amendments, particularly the requirement for private and public fleet owners to purchase alternative-fueled vehicles, a closer reality. It is recommended that the Committee act quickly to pass this bill.

Brooklyn Union recommends that the Committee on Ways and Means also consider the imposition of an "environmental assessment" or increase in the gasoline and diesel fuel taxes to reflect their environmental degradation costs in their retail prices. This assessment should, at a minimum, be established in the range of fifty cents per gallon, to be phased-in over five years. Revenue derived from such an assessment could be used to reduce the Federal deficit, repair roads and bridges, fund research and programs for alternative fuel vehicles and provide subsidies for low-income citizens to replace or convert older, inefficient vehicles or combustion equipment. It is estimated that each cent of an assessment of this nature would produce about $1 billion in revenues. The Committee should work to exempt clean alternative fuels from existing motor use taxes at the Federal and state level.

There are several other incentives which the Committee should consider to enhance the domestic production of natural gas. These incentives are not new. They were reported in the Department of Energy's study entitled "Energy Security." They were suggested to improve U.S. energy security by increasing domestic energy production. By prompting, specifically, the production and subsequent use of natural gas, they will contribute to improving the quality of the environment. Among these incentives are:

Higher net income limitation to increase producer income and encourage the operation of marginal properties which would otherwise be abandoned. Gas and oil percentage depletion allowances are 15 percent of gross income for the property produced, or at most 50 percent of net income. An option may increase the limitation from 50 to 100 percent of net income.

Higher depletion for independents to increase their after-tax profitability and subsidize production and investments. A possible option would be to increase the depletion rate from 15 to 27.5 percent on gross income from the eligible oil and gas producing properties.

Repeal of the "transfer rule" or exclusion of depletion allowance after proven oil and gas properties have changed ownership, to encourage independents to acquire and produce more

properties. The Department of Energy has estimated that 55,000 barrels per day of crude oil equivalent would result.

Higher depletion on all new production. This would allow broader tax deductions and increased after-tax profitability from new oil and gas. Claiming percentage depletion on an unlimited amount of domestic production at a rate of 27.5 percent (compared to the current rate of 15 percent) is expected to lead to an increase in exploration and development of new oil and gas.

Expense geological and geophysical costs, which are currently capitalized and recovered through depletion allowances, to encourage additional activity and discovery of more domestic oil and gas reserves. Independent producers receive no tax benefit for geological and geophysical costs. Although relatively small compared to other producers, this benefit would lead to the development of new reserves.

An **exploration and development tax credit** to also encourage the investment in oil and gas by reducing costs. A five percent credit for all exploration and drilling expenditures or a more restricted credit at 5 percent of only geological and geophysical expenditures have been posed.

STATE AND LOCAL TAX INCENTIVES

We recognize that state and local taxation is not within the jurisdiction of the Committee on Ways and Means. However, it is recommended that the Committee encourage the state and local governments to adopt legislation to enhance competition between, and the use of, alternative fuels, especially those that are clean-burning and can improve the quality of the environment. State and local tax policy may negatively impact the achievement of environmental goals attempted through the Federal tax system and, therefore, this should be of interest to the Committee.

The primary tax problem facing many natural gas utilities is that they are not taxed on profits, or net income, in the same manner as their competitors, the oil companies are taxed. The utilities are taxed on gross receipts, before any deductions, which passes along a sizable cost to the users of their services, a burden that would be clearly lower under alternative and, perhaps, more appropriate methods. The gross receipts tax, although easily administered, is one of the most anticompetitive taxes imposed. It provides an unfair economic advantage to fuel oil which is more deleterious to the environment. In New York State, gas and electric utilities paid over 236 percent more in gross receipts taxes in 1988 than if they were taxed under the net income tax provisions of the law, as the oil companies are taxed. This amounts to almost $400 million dollars, which is passed along to New York State energy users in the form of higher retail gas and electric prices.

Tax jurisdictions, such as New York City, may also place an undue real property tax burden on utilities. Utility property may be classified in a manner different than property of other corporations and subject to higher tax rates. The result is that utility property bears a more disproportionate share of the tax burden than other, more equitable, methods of classification.

CONCLUSIONS

Alternative fuels, especially the fuel of preference - natural gas, need to be encouraged in order for the nation to improve the quality of the environment. The Federal tax system can be an effective means of achieving this end, directly by:

- acting quickly to pass the "Alternative Fuels Incentive Act" to provide air quality credits,

- considering the imposition of an "environmental assessment" or increase in the gasoline and diesel fuel taxes, and

- considering other incentives to enhance the domestic production of natural gas

and indirectly, by:

- encouraging state and local authorities to revise their tax policies to allow clean burning fuels, such as natural gas, to compete evenly with other energy forms.

Brooklyn Union is pleased to have the opportunity to submit this testimony.

STATEMENT OF REPRESENTATIVE GEORGE E. BROWN, JR.
BEFORE HOUSE COMMITTEE ON WAYS AND MEANS

ON

USE OF AN INCREASED GASOLINE TAX TO HELP THE ENVIRONMENT
MARCH 14, 1990

Mr. Chairman, I appreciate the opportunity to submit a statement for the record on the ways an increased gas tax, if imposed, should be used to protect the environment.

The scope of the nation's air pollution problems is clear. We know that over one hundred urban areas do not meet existing Clean Air Act standards for ozone and that more than forty areas fail to meet standards for carbon dioxide. Americans are driving more miles than ever before, resulting in increased traffic congestion, longer delays, and dirtier air. And as the mileage travelled increases, emissions are likely to rise at an even greater rate because more of those miles travelled will be in stop and go traffic.

We know that programs directed toward improving transportation systems and reducing emissions from mobile sources will be central to air quality restoration efforts throughout the nation. Therefore, it is only logical that if a federal gas tax increase is imposed, some of the revenues from the increase should be directed toward the following four areas:

1) research and development of new highway technologies to reduce congestion and enhance public and private transportation;

2) research and development of cleaner and more efficient motor vehicles and alternative fuels;

3) assistance with the commercialization of technological advancements; and,

4) research on the human health and ecological impacts caused by motor vehicle emissions.

Advanced highway and transportation systems could reduce air pollution, transport people more quickly and efficiently, and reduce congestion. Cleaner and more efficient fuels and motor vehicles would reduce pollutant emissions. Assisting with the commercialization of transportation and highway technological advancements would help create niche markets and should provide an incentive for the private sector to fund research and development. Research and monitoring of human health and ecological risks posed by motor vehicle emissions are also needed to understand the potential impacts of new and old technologies.

I thank the Committee for this opportunity to express my views on this issue. I hope my comments will help the Committee incorporate sound environmental policies with equitable, and solid economic and energy security policies.

Statement of the
BUREAU OF SALESMEN'S NATIONAL ASSOCIATIONS
1819 Peachtree Road, N.E.
Suite 210
Atlanta, Georgia 30309
March 1990

Mr. Chairman and Members of the Committee:

The Bureau of Salesmen's National Associations is authorized to present to the Committee the common position of the National Shoe Travelers Association, the International Home Furnishings Association and the Bureau of Wholesale Sales Representatives.

Each of the foregoing national, non-profit organizations respectively represent members who are wholesale sales representatives in the fields of foot wear, home furnishings and wearing apparel.

The members of these organizations are predominantly independent contractors, compensated in whole or in part by commissions, and as small businesses they are entirely liable for all the expenses which they incur.

These entrepreneurial profit-motivated self-starters are stimulated by a risk and reward enterprise. As a consequence, they oppose any excise tax increase that would tend to negatively impact upon the economy and thereby increase the risk and inhibit the reward.

Of particular concern in this regard is the suggestion that an increase in motor fuel taxes be imposed as a means to promote energy conservation or as a method to control air pollution. Obviously, a lower income individual must contribute a higher percentage of his or her income to pay such a tax than a higher income individual. Nearly 78 percent of Americans earning less than $10,000 per year commute to work by private motor vehicle. These low-income gasoline users would pay more than three times as much under such a proposal relative to their income as more affluent citizens. Thus, the proposal is regressive on its face and it would most severely impact upon those who could least afford it.

Of equal concern is the devastating domino effect that an increase in the motor fuel tax would have on the nation's economy. The arguments raised in this regard in opposition to an increase in the motor fuel excise tax to reduce the Federal deficit are equally applicable to a similar increase for the purpose of improving the environment.

The Committee's attention is respectfully directed to H. Res. 41 that was introduced in the 1st Session of the 101st Congress, where it was noted that a motor fuel tax increase of 10 cents or more per gallon would:

- Reduce the gross national product by $10 billion in the first year,
- Reduce automobile production by 1.3 percent,
- Reduce housing construction by 0.9 percent,
- Increase unemployment by 80,000 in the first year and 180,000 by the third year,
- Reduce petroleum refinery output by 1.2 percent,
- Reduce income tax revenues by almost $1 billion annually,
- Reduce personal savings by nearly 3 percent, and
- Increase the Consumer Price Index by 0.3 percent.

A consequence of the foregoing would be a significant diminishment in consumer spending which would directly affect those for whom we speak. Wholesale sales representatives are located in the distribution chain between the principals they represent and the retailers they serve. The retailers, who are the source of the sales representatives' business, are dependant upon consumer sales. Thus, the curtailment in consumer

spending that would result by an upward tampering of the motor fuel tax would directly or indirectly adversely affect a considerable segment of the small business community. Wholesale sales representatives would certainly be among the small businesses that suffer as result of the proposal.

An additional concern was expressed by Rep. Glenn Anderson. As Chairman of the Committee on Public Works and Transportation, Rep. Anderson noted that Americans in rural communities, on a per household basis, travel 40 percent more miles than citizens domiciled in metropolitan areas. Predicated on Rep. Anderson's figures, those residing in rural areas would be required by such a proposal to pay 40 percent more at the gasoline pump towards energy conservation and pollution control than those in metropolitan areas. The inequity of this arrangement is further compounded since rural communities often cannot provide their residents a mass transportation alternative.

On balance, the sweeping devastation that such a proposal puts in motion far outweighs the environmental benefits which it might achieve.

Economic impact and fairness to lower-income Americans aside, there is serious disagreement as to whether substantial decreases in the U.S. motor vehicle emission will significantly improve the quality of our air.

Over the last 15 years, tremendous progress has been achieved in the effort to minimize motor vehicle emissions. For new model automobiles, emission of hydrocarbons has been reduced by 96 percent, carbon monoxide by 96 percent, and nitrogen oxide by 76 percent. These figures represent the result of intense efforts on the part of automakers to comply with the Clean Air Act. To their credit, automakers have found the technology to achieve these impressive improvements. It is also to the credit of the U.S. Congress that firm but achievable standards were set at a time when American cars and trucks were indeed inefficient.

Even without an increase in taxes as a means of discouraging driving, a further decline in the automobile's overall contribution to the pollution level will occur.

It is estimated that 54 percent of all cars on U.S. roads today were built to meet earlier, less strict emission standards than those intact today. This 54 percent of cars and trucks account for 84 percent of all car hydrocarbon and carbon monoxide emissions. As more older, inefficient cars and trucks are taken out of service and are replaced by newer vehicles built under today's tougher tailpipe standards, the levels of automobile emissions fouling our atmosphere will be further reduced.

The Motor Vehicle Manufacturers Association estimates that, absent the imposition of any stricter tailpipe standards, and assuming a constant number of vehicle miles driven, U.S. vehicle hydrocarbon emissions will decline by 50 percent by the year 2000. Even assuming a 2 percent growth per year in the number of miles driven, a 38 percent increase in hydrocarbon emission will occur by that year.

A gasoline tax increase which takes money out of the pocket of the lower and middle class driver will slow the gradual but inevitable process of replacing the nation's fleet of older cars with the clean and efficient models mandated today.

It is estimated that carbon dioxide emissions contribute about 45 percent of all the greenhouse gases worldwide. U.S. vehicle carbon dioxide emissions, however, account for only 2.5 percent of the total greenhouse emissions. Clearly, a worldwide effort to control these emission would be the only significant means of reduction; placing the unfair burden of higher gas taxes on the American public is not justified in light of the relatively efficient performance of the cars they drive and the negligible air quality improvements that would be achieved.

Despite extensive, and sometimes sensational, reporting of the adverse effects of global warming, the legitimate scientific community is still in disagreement over the need to sharply reduce the levels of "greenhouse gases" being emitted into the atmosphere. To single out American drivers as a target for reduction in emission levels that are, as yet, not proven unsafe, is an affront to the taxpayers of this nation. Further research must be

conducted to determine the true need for reduced automobile emissions, and substantial evidence that an excise tax increase would be an effective means of achieving such a reduction must be provided, before seriously considering a tax increase that might have such far-reaching and devastating effects on the U.S. economy.

For the reasons stated above, the Committee's long term strategy in regard to environmental issues should not include an increase in the motor fuels excise tax or any unrealistic adjustments of automobile emission standards.

Thank you for considering our point of view.

Respectfully submitted,

THE BUREAU OF SALESMEN'S NATIONAL ASSOCIATIONS

By: s/ Sherwyn E. Syna
SHERWYN E. SYNA
Chief Executive Officer

House Ways and Means Committee

March 6 and 7, 1990

Testimony of Carolyn DiMambro
CARAVAN for Commuters, Inc.
Boston, MA

My name is Carolyn DiMambro. I am Executive Director of CARAVAN for Commuters, Inc., a private, non-profit company working with 1000 Massachusetts businesses to implement commuter service programs fostering shared ride and transit commuting.

In 1984, tax policy overruled reasonable transportation policy. Now, transit passes worth more than $15 per month, employer provided vanpool discounts, and employee transportation allowances are taxable fringe benefits. The same law specifies that free parking is not a taxable fringe benefit. The result is a powerful incentive for people to drive alone to work instead of sharing rides and using transit.

Ten years of national research confirm that provision of free parking is the most powerful motivator of solo commuting. A 1988 survey of 4000 commuters in 17 metropolitan areas, funded by the Urban Mass Transportation Association, found that 83% of respondents driving alone to central city jobs pay nothing to park. In Boston, that translates into a tax free benefit worth almost $2400 a year. If, on the other hand, a Boston employer subsidizes more than $180 annually for an employee's transit pass or subsidizes a vanpool program at all, the amount is taxable. Our federal tax policy is unfairly encouraging solo commuting.

Traffic congestion, with its costs in delay and pollution, is increasing at the same time that public funds for both roadway expansion and pollution control are seriously constrained. Clearly, we must maximize use of our existing infrastructure's capacity in the most environmentally responsible way possible by encouraging commuters to share the ride to work.

Legislative revisions to reinstate the exemption from tax for vanpools and to raise the tax exempt level of transit pass fringe benefits would help us reach our goals for cleaner air, reduced energy consumption, and less traffic congestion.

Written Statement
of the
Council of Infrastructure Financing Authorities
on Means by which the Federal Tax System
Could be Used to Improve our Environment

March 23, 1990

The Council of Infrastructure Financing Authorities (CIFA) appreciates the opportunity to provide written comment on ways the Federal tax system could be used to improve the environment. I am Jack Fickessen, Chairman of CIFA, which is a national, nonprofit association of public agencies providing financial assistance to localities for the construction of public infrastructure.

Your invitation for testimony implies a conclusion that we heartily endorse: The Federal tax system <u>can</u> be used to significantly improve our environment. We believe the primary means by which this laudable goal is achieved is through encouraging investment in areas where environmental goals and standards are a matter of public policy.

Our written statement addresses specific and general measures designed to lower costs of investment in public-purpose environmental infrastructure. Such facilities are those required to meet Federal and State requirements pertaining to the protection of public drinking water supplies, compliance with technology and water quality based permit limits for wastewater dischargers, ensuring the safe disposal and reuse of solid waste, and compliance with air emission standards. Recent studies conducted by the Private Sector Advisory Board on Infrastructure Financing and National Council on Public Works Improvement have indicated a strong correlation between the level and trend of investment in infrastructure and national productivity. In terms of environmental infrastructure, this holds doubly true both from the standpoint of the direct services provided by the facilities themselves and from the overall improvement in the quality of our life by gains in environmental protection.

The U.S. Environmental Protection Agency has suggested that compliance with the Federal Clean Water Act will require more than $100 billion in new investments by the year 2000. An additional estimated $115 billion to $160 billion will be needed by that year to maintain and upgrade safe and dependable water supply systems. Compliance with Federal requirements for the disposal of hazardous and solid waste and the currently debated amendments of the Clean Air Act will cost billions of dollars more.

To meet these Federal mandated environmental requirements, states and local governments rely on basically four traditional means of financing - revenues, both general and dedicated, special assessments, short-term borrowing, and bonded indebtedness. More than 60 percent of the annual capital investment in these required facilities comes from the sale of tax-exempt bonds by state and local governments. The changes in the Federal Tax Code, beginning with the 1982 changes and continuing with the Tax Reform Act of 1986, and the legislative changes in 1987 and 1989, have not diminished the reliance of state and local government issuers on this critical means of raising capital. But costs of issuance, administrative costs and yields are generally higher than they otherwise would be as a direct result of restrictions placed on the sale of tax-exempt bonds and the use of their

proceeds. Costs have risen as well due to arbitrage rebate requirements and limitations placed on the use of advance refunding.

The ease with which state and local governments finance environmental infrastructure is governed directly by the Tax Code. The Code should be used to make these investments more attractive - not more cumbersome and costly. The abuses that changes in the Tax Code were intended to eliminate, have, it seems, been eliminated. Our concern is that while the abuses may have been prevented, the tax law changes place unduly onerous restrictions on investments that are publicly owned, operated, and maintained to serve the general public and tend to undermine the capability of state and local government to efficiently and effectively finance environmental infrastructure in a timely manner. We feel that tax law which restricts, rather than enhances, investment in environmental infrastructure impedes progress in complying with public policy to improve the environment and erodes the foundation of the partnership formed between the Federal government and other levels of government to meet our environmental goals.

We submit several examples below where, in the case of pooled financing, the tax system could reduce public sector costs in financing environmental infrastructure.

The vast majority of smaller or rural communities served by private non-profit corporations around the country, as well as many larger communities, will have to use a pooled financing vehicle to borrow the tax exempt funds they will need to pay for the construction and renovation of drinking water and sewage treatment facilities mandated by federal law. Pooled financing, usually provided at the state level is used to assist communities in financing their environmental projects by affording economy of scale, and the pledge of the state's credit or the credit of the pool's portfolio which equates to lower issuance costs and normally better rates for most communities. Pools are especially beneficial to smaller communities which often cannot access capital markets at an affordable rate.

Some technical changes that would improve the ability of these environmental pools to help these communities to obtain the funds they need to meet these requirements are:

BIFURCATION: The 1989 Tax Act put in place some positive changes to help small communities efficiently finance the cost of environmental mandates. One of those changes was to allow an issuer to choose among four options in meeting the arbitrage and rebate requirements of the code. The 1989 Act also allowed an issuer to bifurcate an issue in order to not have to sell two issues if bond proceeds were to be spent in such a way that a single compliance method was not possible. Unfortunately, this ability to bifurcate did not take into account what would happen in a pooled financing.

Because the 1989 Act talks about bifurcation of "an issue" the entity that sells a pooled issue through a State Bond Bank is also limited to only two compliance options. This means that unless the use of the proceeds by all members of the pool falls into two or fewer compliance options it will not be possible for the pool issuer to obtain funds for any community, which does not fall into one of the two compliance options. Environmental pools should not be subjected to the requirements currently included in the Tax Code.

SOLUTION: Amend subclause VII of Section 148(f)(B)(iv) by adding the following sentence:

> "In case of pooled financing bonds issued to purchase obligations described in Section 103(a) for

> environmental infrastructure that are not described in Section 141, the exceptions to rebate described in clause (1)(iii), this clause, and subparagraph (c) of Section 148(f)(4) shall be available to the issuer of the pooled financing bonds to the extent they are available to the issuer of the underlying obligations.

BANK DEDUCTIBILITY: The 1986 Act sharply reduced the ability of commercial banks purchasing municipal tax exempt bonds to deduct the cost associated with the purchase and carrying of such bonds. The only exception provided to this limitation was provided to banks which purchased bonds sold by communities who sold $10,000,000 or less of such bonds in a calendar year.

The national market for these so-called bank eligible bonds is now paying a premium for them such that the interest rate on a bank eligible bond is 25 to 35 basis points lower than an identically rated bond that is not bank eligible. Communities which borrow through environmental bond bank pooled financing systems to obtain the money for their environmental projects are denied this bank eligibility even if they are borrowing less than $10,000,000. Accordingly, they are paying 1/4% or more higher interest rate charges on their bonds for twenty or thirty years and the Treasury suffers a revenue loss because the buyers of these bonds are not paying taxes on the additional income they obtain at the higher interest. By allowing the pass through of bank eligibility to environmental pooled issuers, the small issuers would obtain a lower interest rate for their environmental projects and the treasury would see a reduction in its revenue loss from the sale of these bonds.

SOLUTION: Amend subparagraph (f) of section 265(b)(3) by adding the following sentence:

> For purposes of this subparagraph (f), the term "composite issue" shall not include any qualified tax-exempt obligation merely by reason of its purchase by a pooled issuer with the proceeds of obligations described in Section 103(a) for environmental infrastructure that are not described in Section 141.

Additionally, we urge for the committee's consideration raising the small issuer exemption from $10 million to $25 million and, similarly, the arbitrage rebate exemption from $5 million to $25 million. These two improvements would significantly enhance the capability of small and moderately sized communities to construct affordable facilities.

General Comment

An interesting point has received recent attention in the debate over tax-exempt bonds for public-purpose infrastructure. From the standpoint of classical economic theory, tax-exempt bonds, and perhaps tax preferences in general, are apparently viewed as a less efficient means of providing Federal assistance than, say, a grant program. To argue, as some analysts have, that tax-exempt bonds are an inefficient subsidy misses the point. In a continuing era of declining direct Federal aid and increasing needs, including those stemming from unfunded Federal environmental mandates, there simply are not many options left to States and localities. The prospects for more "efficient" subsidies are virtually nonexistent. Tax-exempt financing will continue as the major source of capital for environmental infrastructure, far surpassing "pay-as-you-go" and taxable bonds as practical alternatives.

Therefore it is our general position that one of the greatest opportunities in using the Federal tax system for environmental improvement lies with lowering the costs of tax-exempt bonds for legitimate public-purpose environmental infrastructure necessary

to attain and maintain compliance with environmental and public health standards. Indeed, the public policy objectives of the system should seek to encourage such investments through preferential tax treatment.

The system could do both by establishing a set of well-defined criteria for a distinct category of infrastructure bonds that for qualified issues would remove requirements pertaining to arbitrage rebate, advance refunding, alternative minimum tax and volume caps. It is possible to specify practical and effective qualification criteria by focusing solely on the use to which bonds are put.

For this reason, the Council of Infrastructure Financing Authorities strongly supports the concepts included in the Environmental Infrastructure Act of 1989 (S.700). This bill cuts through the increasing complexity of tax law to provide significant cost savings to States and localities who must rely on tax exempt bonds to meet environmental and public health standards. The separate infrastructure bond created by the bill would include any State or local bond used to finance sewage, solid waste, hazardous waste, water or air facilities for the general public, or whose purpose is to enable State and local government to comply with environmental standards. Bonds qualified for this category would be exempt from volume cap and other private activity bond restrictions, and arbitrage rebate requirements so long as the proceeds are spent out in 36 months.

We believe the Environmental Infrastructure Act is an example of a significant way the Federal tax system can be used to improve the environment and urge the Committee to consider the concepts included in the bill.

Thank you for this opportunity to comment.

Jack R. Fickessen
Chairman, CIFA

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March 9, 1990

The Honorable Dan Rostenkowski
Chairman, House Ways and Means Committee
1102 Longworth Building
Washington, D.C. 20515

Dear Chairman Rostenkowski:

I am very pleased that you are holding hearings on the important topic of tax policy and the environment. I'd like to include in your committee's deliberations the information that our College of Business developed approximately one year ago on the economic benefits of the local ethanol industry.

The Eastern New Mexico University College of Business completed a study (copy enclosed) that developed an accurate and useful economic analysis of the industry. We measured the direct benefits to consumers, utilities, farmers, feeders, etc. - the NET PROFIT that people OTHER THAN the ethanol producers received. Our estimate of benefits given away (not captured by producers) ranged from $1.36 to $3.78 per gallon of ethanol produced.

We documented that the majority of the "giveaway" was due to market inefficiency largely due to Octane giveaway (90 octane ethanol blend gasoline sold at 87 straight run gasoline prices) because of oil company marketing restraints. If that be the case, for example, at one trillion gallons per year in national sales, we estimate that over ONE BILLION DOLLARS are given away annually to consumers and not "credited" to the ethanol industry.

Ethanol's environmental benefits are well known but not yet well documented economically. We did not include those environmental benefits in our analysis, but would like the opportunity to do such an evaluation.

We would be more than happy to assist you and your staff in an analysis that would lead to what we believe is a more accurate, productive and useful assessment of the impact of the ethanol industry.

Sincerely,

Dr. Barry A. Knight, C.P.A.
Dean, College of Business

Enclosure

[ONLY PORTIONS OF THE STUDY ARE BEING PRINTED, THE REMAINDER OF THE STUDY WILL BE MAINTAINED IN THE COMMITTEE FILES.]

THE NEW MEXICO ETHANOL INDUSTRY

A Study in Targeted Economic Development

EXECUTIVE SUMMARY

Public policymakers are constantly searching for viable ways to encourage, achieve, and assess the benefits of economic development. Traditionally, public sector analysis of benefits includes estimates of total dollar expenditures amplified by some multiplier to generate an estimated figure labeled "Total Potential Impact." However, this traditional approach does not provide means to measure the marginal impact or certain other benefits to society resulting from the economic development strategy under analysis.

This study examines the effects of targeted economic development through the use of tax exemptions. The model examined is the New Mexico fuel ethanol industry. The study presents an estimate of total dollar expenditures and total potential impact of the industry. However, the study goes beyond the limitations of traditional public sector analysis to consider the ethanol industry's marginal impact and other benefits to the public not considered in the use of traditional methods.

After sketching the history of the development of New Mexico's ethanol industry and profiling the state's current ethanol operations, the study presents an analysis of the economic impact of the industry's purchases (Economic Impact Inputs) and products (Economic Impact Outputs).

An analysis of industry figures for 1987 shows that, by conservative projections, the industry's potential economic impact for 1989 is in the neighborhood of $36 million.

Analysis also shows that the industry's grain, chemical, utility, gasoline, transportation, vendor, employment and payroll, and other expenditures stimulate production and prices and provide employment for a substantial number of New Mexico citizens.

The study reveals that the industry's sales of ethanol, distillers's grains, and carbon dioxide provide economic benefits to a number of native industries. Ethanol use also helps preserve health and the environment by significantly reducing emissions of carbon monoxide, ozone, sulfur dioxide, and tetraethyllead.

In addition to the health and environmental benefits, every dollar in tax foregone through reduced gasoline tax collection has generated more than $2 worth of net economic benefits to New Mexico.

Therefore, the study concludes, the development of the ethanol industry has provided substantial contributions to the New Mexico economy, and it appears that ethanol production holds strong potential for the future.

The industry has the potential to make a $36 million contribution for 1989. However, the state tax increase from $ .06 to $ .11 per gallon on July 1, 1989 will probably cause some producers to cease production. The study points out that, because of the substantial cost benefit of the industry to the state, actions at the administrative and legislative level might be considered to continue the viability of the industry.

The study further suggests that the ethanol industry be viewed as part of a long term national strategy to address energy, environmental, agricultural, deficit reduction, and trade needs, and that ethanol producers continue to research potential markets in order to develop what appears to be a variety of economically beneficial uses for ethanol and its by-products.

This analysis of the New Mexico fuel ethanol industry shows clearly that targeted economic development can force the development of ventures that can make substantial economic contributions. In sum, it shows that the industry has generated economic benefits between two and three times greater than the cost to the state in state tax exemptions.

The study suggests that other potential forced economic development possibilities (e.g. the recovery of remote coal resources or natural gas resources, the upgrading of other agricultural commodities, and other "value added" ventures) be viewed in the light of the method of assessing economic benefits applied to the fuel ethanol industry in this study.

Finally, the study suggests that public policymakers consider a simple cost-benefit analysis to estimate or determine the viability of targeted economic development ventures. If, after assessing marginal impacts and benefits to society not traditionally considered in public sector analysis, benefits are determined to outweigh costs, then policymakers may conclude that targeted economic development strategies such as those used to force the development of the New Mexico fuel ethanol industry may be an appropriate means for New Mexico to promote economic development.

CONCLUSIONS AND POLICY CONSIDERATIONS

Conclusions

It is apparent that the fuel ethanol industry in New Mexico adds substantial benefit to the economy. The industry produced nearly $ 27 million worth of products and services in 1987 and produced more than $ 31.5 million worth of ethanol and ethanol production by-products. The benefits are most obvious in the areas of jobs, personal income, agricultural income, energy, clean air and the environment, and in industries using ethanol production by-products. Ethanol production directly created more than 213 jobs and more than $4,200,000 in personal income for New Mexico residents.

Ethanol production also has helped create higher grain prices by consuming the total production of grain sorghum from between 271 and 365 family farms. It is worthwhile to note that grain sorghum production has decreased in New Mexico from 13,920,000 bushels in 1985 to 10,350,000 in 1986 to 7,980,000 in 1987. If the full productive capacity of the fuel ethanol industry were operational, the increased demand for New Mexico grain would no doubt lead to increased regional grain production and higher grain prices.

In 1987, U.S. government payments to New Mexico farmers were $62,400,000. The bulk of this was due to agricultural policies encouraging non-production of agricultural products and to price supports. If 25% of this amount were routed to ethanol production ($15,600,000) the industry in New Mexico would probably remain viable and productive farm land could be brought back into higher use. If 50% of the total government payment was directed to ethanol production ($31,200,000), it is conceivable that the other idle ethanol plants in the state would be operationally feasible and able to generate enough revenues to fund ethanol production.

This in turn could encourage grain production on currently fallow farm land, and, since the consumption of grain from the production of ethanol is so substantial, area grain markets would likely remain above the regional norm.

Regarding clean air and the environment, it appears that substantial benefits result directly from the sales of ethanol blended fuel in the elimination of carbon monoxide in more populated areas of the state. Ethanol is clean burning, lead free, renewable, and lessens our dependence on foreign oil while decreasing both the federal deficit and the U.S trade imbalance.

These benefits stem from the targeted efforts of the various levels of government in developing this industry. The fuel ethanol industry would not exist in New Mexico were it not for the concerted efforts of government in cooperation with private individuals and corporations. Because of current market conditions, namely high grain prices and low gasoline prices, the fuel ethanol industry is not self-supporting. Producers indicate that they are in some cases either operating at a loss or are not able to service the debt on their facilities under current conditions.

The reduction of the state gasoline tax exemption would eliminate a substantial amount of the productive capacity of the industry and curtail the profitable operation of the rest. At least one half of the productive capacity of the industry will cease on July 1, 1989 if the market remains the same and the state ethanol blended fuel tax is increased from $ .06 to $ .11 as scheduled.

Approximately 10 million gallons of annual production is currently idle in ethanol production facilities throughout the state that were operational at one time. Virtually all of these plants failed as a result of mismanagement in the developmental stages of the industry rather than in the operational stages. There is no possibility that these plants will ever operate again given the current economic conditions and scheduled reduction of the gasoline tax exemption.

By employing the method of traditional economic impact analysis profiled above, this study shows a substantial positive benefit to the economy in the areas of jobs, direct personal income, agricultural policy, energy policy, environmental policy, and economic development itself from the fuel ethanol industry in New Mexico. By employing the more inclusive non-traditional incremental analysis, also profiled above, the study shows that the industry's potential contribution in 1989 to the area

economy would be approximately $36 million cash. If the state ethanol blended fuel tax is increased as scheduled on July 1, 1989, plant closures would reduce those benefits by as much as one-half.

Policy Considerations

It is suggested that the following six policy considerations be evaluated:

First: Since the fuel ethanol industry was the target of focused economic development which led to the inception of an industry with a success rate near 65% of operational viability, and since the failure of the remaining 35% occurred in developmental rather than operational modes, it therefore appears appropriate that future economic development ventures offer greater incentives at the operational end of the continuum rather than at the developmental end. Incentives for production appear to be more important than inducement for relocation and development.

Second: It appears appropriate that the fuel ethanol industry be viewed nationally as part of an environmental, agricultural, deficit reduction, and trade balance strategy. Within such a comprehensive view, it is probable that the industry could deliver substantial benefit in various areas of concern to policy makers.

Third: It appears appropriate that the fuel ethanol industry be viewed at the state level as a strategy for value added economic development which can provide high paying rural jobs and low cost environmental improvement.

Fourth: It appears appropriate that policy makers consider other targeted or forced economic development ventures (e.g. the recovery of remote coal resources or natural gas resources, the upgrading of other agricultural commodities, and other "value added" ventures). It would seem worthwhile to consider such ventures on the basis of cost-net benefit analyses, such as the one used in this study, that can measure marginal impacts and benefits to the public not fully evaluated in traditional assessments.

Fifth: It appears appropriate to consider encouraging New Mexico's state university research facilities to cooperate with the ethanol industry to conduct research aimed at upgrading and marketing the co-products of ethanol production. Carbon dioxide is clearly under-utilized in the majority of the plants in the state. The non-fermentable portions of the current process stream (distiller's grains) have high value as cattle feed, but the potential market for human grade distiller's grain products is still largely untapped. Ethanol has a wide variety of uses beyond the present market as a gasoline blend component and has broad uses in chemical feedstock markets, where it can be employed in the production of a wide range of finished products.

Sixth: It appears to be in the best interests of the ethanol industry to examine each of these additional markets for carbon dioxide, distiller's grains, and ethanol, and it appears to be in the best interests of New Mexico to recognize the potential for these markets and the economic benefit to be derived from them as well.

BY

KIM PUZEY

FEBRUARY, 1989

STATEMENT OF THE ELECTRIC TRANSPORTATION COALITION

Submitted to the House Committee on Ways and Means

March, 1990

This statement is submitted on behalf of the Electric Transportation Coalition in response to the Committee's request for information on the air quality and energy conservation benefits of federal tax support for fuel efficient vehicles. Participants in the Coalition include the Southern California Edison Company, the Los Angeles Department of Water and Power, the Edison Electric Institute and the American Public Power Association. For several months the Coalition has been engaged in efforts to increase public awareness and understanding of the benefits of electricity as a transportation fuel. Our comments here will stress the importance of providing tax incentives for electrically powered vehicles as part of any package designed to stimulate the broader use of clean-fueled vehicles as alternatives to gasoline-powered vehicles.

Air Quality Benefits of Electric Vehicles

Emissions from roadway vehicles -- cars, trucks and buses -- have been identified as a primary cause of non-attainment of air quality standards for ozone and carbon monoxide. While many advances have been made in reducing emissions from internal combustion engine (ICE) vehicles, it is clear that other approaches must be developed if mobile source pollution is to be significantly reduced. Vehicle miles travelled are on the increase, producing increased emissions despite past technical advances, along with associated problems of traffic congestion, wear and tear on the roadways and noise pollution.

Electric vehicles (EVs) are the single most effective means of reducing transportation sector emissions. Appropriate incentives for electric vehicles must, therefore, be included in any effort to use the tax code to encourage the production of vehicles that will reduce pollution from mobile sources.

The California Air Resources Board (CARB) has published emission rates for several alternative fuels -- electricity, methanol, compressed natural gas (CNG) and liquid petroleum gas (LPG) -- and comparisons of the emissions produced by alternatively-fueled vehicles to those of gasoline-powered vehicles in three categories -- reactive organic gases (ROG), carbon monoxide and nitrogen oxides. The CARB results factor in the incremental emissions attributable to generating the electricity required to recharge the electric vehicles. The results demonstrate that of the relatively near-term alternatives to conventional gasoline powered vehicles, EVs not only offer the greatest reduction in emissions when compared to gasoline-powered vehicles, but are virtually emission free during operation and therefore are by far the lowest emission alternatively-fueled vehicles.

As illustrated in Attachment 1, when compared to gasoline, electric vehicles are 64 times better in terms of emissions of reactive organic gases, 174 times better in terms of carbon monoxide emissions and 8 times better in terms of oxides of nitrogen emissions. The CARB figures also demonstrate how much lower EV emissions are than those of other alternatively fueled vehicles. For example, in emissions of reactive organic gases (ROG), EVs are 55 times better than methanol, 32 times better than LPG and 30 times better than CNG.

Attachment 2 illustrate the reduction in emissions that can be anticipated by the replacement of gasoline-powered vehicles with EVs. According to the Electric Power Research Institute

(EPRI), replacement of just one percent of the vehicles registered in the United States today with electric vehicles would reduce emissions by 160,000 tons per year from what they would otherwise be. This figure does not take into consideration reductions in carbon dioxide emissions that would also result. In California, for example, generating electricity needed to recharge EV batteries would produce 60 percent less CO_2 than would the continued use of gasoline-powered vehicles. (Source: EPRI Technical Brief, "Electric Van and Gasoline Van Emissions," 1989.) The impact on CO_2 emissions produced by increased EV use would be especially significant if the electricity used to recharge vehicle batteries is produced from renewable sources or nuclear power.

In terms of energy conservation and efficiency, EVs are far more efficient in their use of their power supply than gasoline-powered ICE vehicles. The EPRI emissions survey also demonstrates that a full sized electric van is expected to be 25 percent more efficient in fuel consumption than a similarly sized gasoline-powered van. The improvement is even more dramatic when minivans are compared: an electric minivan is estimated to be 40 percent more efficient than a similar gasoline-powered vehicle. Moreover, because electric vehicles will be recharged at night, the electricity necessary for charging operations can be generated during off-peak hours, when plants might otherwise be idle, thereby making more efficient use of existing generating capacity.

Electric vehicles also offer important benefits in terms of energy security. The transportation sector now consumes 60 percent of the oil used in this country. The selection of alternatives to conventional motor vehicle fuels offers an opportunity to address our growing national dependency on imported oil.

The use of electricity as a transportation fuel has the dual advantages of available supply and domestic production. Replacement of gasoline-powered vehicles with EVs could displace large amounts of imported oil. According to EPRI, substitution of electric vehicles for each one percent of the vehicles currently registered in this country would save approximately 35 million barrels of oil per year and reduce our trade deficit by $1 billion annually. The substitution of conventionally-fueled vehicles with electric vehicles offers one important means of insulating the national economy from the shocks occasioned by any disruption in the oil marketplace.

For all these reasons, electric vehicles deserve to be included in any package of tax incentives for alternatively fueled vehicles.

<u>Tax Incentives Could Assist In Overcoming The Market-Based Barriers To The Commercial-Scale Production Of Electric Vehicles</u>

As increasing emphasis is placed on attaining air quality standards, anticipated changes in environmental policy are likely to influence consumer choices for transportation. Those alternately fueled vehicles that best meet consumer preferences and are most able to cost-effectively comply with new public policy dictates will have the best chance of market acceptance. The benefits of EVs -- the technology most consistent with the need to reduce mobile source emissions; the technology able to provide the most direct and effective means to cutting transportation sector emissions -- cannot be realized soon unless consumer acceptance is also addressed and accelerated.

Despite years of technology development efforts, <u>e.g.</u>, efforts concentrating substantial public and private resources on vehicle design and battery research, electric vehicles for

highway use are not commercially available today. A number of barriers that prevent this technology from reaching its full potential have been identified. While some are technical, the most difficult obstacles to overcome are market-based. Creation of a favorable tax environment for electric vehicles could have a meaningful impact in stimulating the development of a domestic electric vehicle industry.

Market-Based Barriers to Electric Vehicles

Today, no market-driven demand for electric vehicles exists. Two factors that hamper the development of an EV market are high initial vehicle cost and potential purchasers' inability to evaluate EV performance in actual driving conditions due to the lack of a production model EV. Certain infrastructure issues also remain to be resolved if an EV marketplace is to be developed.

- High purchase price: To date potential EV manufacturers and fabricators have been unwilling to make the investments necessary in facilities for the high-volume production of electric vehicles without stronger indications of consumer demand for EVs. As a result, only a relatively small number of proof of concept or prototype vehicles have been made available in this country. The lack of production facilities has kept the per vehicle cost high compared to comparable gasoline-powered vehicles. For example, prototypes of the current generation of EV technology, a full-sized van known as the Electric G-Van, typically cost up to $75,000. Without volume production, which is expected to achieve significant economies of scale and thereby lower costs, consumers will resist paying the high purchase price per vehicle.

- Lack of experience with EV performance: Without volume production, consumers are unable to evaluate the performance of EVs in actual on-the-road-use, and are unwilling to commit to the use of a large number of EVs until they are satisfied that EV performance characteristics are acceptable and that the vehicles will be cost competitive on a life cycle basis with conventionally-fueled vehicles.

- Infrastructure issues: Supporting the introduction of a new vehicle technology will require a number of consumer service-oriented steps. Creation of an initial distribution network is required, and must be carefully planned to assure that EVs are available in those areas of the country where they can make the largest contribution to attaining air quality standards. Although EV maintenance costs are expected to be substantially less than those of conventional vehicles, service networks still will need to be established. Also, provisions for recharging need to be developed, in conjunction with the electric utility industry. Given the existing electricity distribution infrastructure, providing for recharging is not expected to be a significant burden.

- Need for major industrial support: Successful development of a domestic EV manufacturing capability will require the active involvement of major automotive manufacturers that possess the ability to offer system engineering and safety and reliability testing. Some of the smaller entities that have traditionally been at the forefront of EV development efforts have not had the capability to provide these services. Today there is active involvement in the electric vehicle development program by General Motors, Vehma, Chrysler and Ford, through the Department of Energy electric vehicle program, and other major component manufacturers. GM's announcement that it

has designed a prototype two passenger EV has generated considerable excitement. The fact remains, however, that no major automaker has yet announced any plans to actually produce EVs.

Technical Barriers To Electric Vehicles

Much of the unrealized promise of the electric vehicle development programs of the 1970's and early 1980's may be attributed to the continuing need for electrical drivetrain improvements. Performance improvements are needed, particularly with regard to battery development. Nevertheless, public policymakers at all levels must recognize that proven EV technology is available, and that millions of miles have been driven in electric vehicles all over the world.

The task facing us now is to get the available technology on the road -- to build a performance history that will convince consumers and manufacturers alike of the benefits of EVs and to identify areas where technological improvements would have the most impact.

- Technical limitations on vehicle range: The electric vehicles closest to the point of commercialization today are powered by conventional lead-acid batteries. While the lead-acid battery configuration has been shown to be highly reliable, the battery pack must be periodically replaced during the life of the EV, which significantly affects the life cycle cost of the vehicle. With the lead-acid technology, a full sized electric van (the Electric G-Van) has been designed, is in prototype production, and is nearing the completion of Federal Motor Vehicle Safety Standards (FMVSS) tests. Current EVs powered by lead-acid batteries are capable of a 60 mile range between recharging, which is suitable for many urban fleet applications. In fact, as many as 40 percent of commercial light duty fleet vehicles in major urban areas travel only 60 miles in any given work day. However, near term technology, i.e., technology expected to be available within the next five years, will rely on nickel-iron and sodium-sulfur batteries, that will increase the projected electric vehicle range to as much as 200 miles between recharges. Such a range can meet the daily needs of the vast majority of drivers of passenger cars and light duty vans and trucks in the United States. Early electric vehicles equipped with lead-acid batteries can be refitted with advanced batteries when they become available. Nevertheless, the existing limitations on vehicle range make it essential that an initial niche market -- urban fleets -- be developed for the introduction of EVs, and that improvements in vehicle range be achieved before EV technology will be acceptable to a broad spectrum of consumers.

- Other performance concerns arising from the need for improved battery technologies: Improvements in battery technology resulting in improvements in vehicle performance are essential to the ultimate commercial acceptance of electric vehicles. Increased investment in battery R&D is required. Yet investment in battery research is effectively stymied today by the lack of commercial prospects for electric vehicles. An important outgrowth of developing an EV market would be the creation of an outlet for improved EV battery products. Then a market-driven mechanism would exist to pull private R&D funds into battery research, and thereby advance the time when enhanced battery technologies will be commercially available.

- Further technical advances: Improvements in power electronics, concentrating on improved power trains and power drive will add to the reliability of the electric vehicle and improve its efficiency. Other applications being developed, such as "smart circuits" could have wider applicability in electric utility delivery systems. The use of alternate power units (APUs) to recharge batteries during vehicle operation could also significantly extend the vehicle range per charge.

The creation of new incentives to overcome these barriers and spur the market acceptance of electric vehicles is essential if we are to overcome the "Catch 22" situation in which EVs are now caught. The advantages of EVs described above -- their contribution to a cleaner environment and greater national and economic security derived from greater energy security -- currently relate more to "general public benefits" than to benefits likely to be realized by individual consumers of electric vehicles. Unless or until consumers are convinced that the product meets their individual needs, or until public policy dictates a change in consumer habits, EVs, despite their public benefits, are not likely to displace conventionally-fueled vehicles.

It is very important for the federal government to send a strong signal that EV technology is important and worthy of public and private sector interest, involvement and investment. Federal support can and must be evidenced in several ways. Any alternative fuels program that may be adopted by the Congress must include electric vehicles. Legislation, H.R. 3852, the Electric Vehicle Technology Development and Demonstration Act of 1990, has been introduced in the House to create a production incentive program that would take the initial steps toward creation of an electric vehicle market. We endorse this legislation as an important part of what must be a coordinated federal, state and local effort to encourage EV commercialization. The potential regulatory commands of federal or state programs to address pollution from mobile sources will also exert pressure in favor of the creation of an electric vehicle production capability to meet the expected demand for "clean fuel" vehicles that new regulatory regimes will require.

But the imposition of regulatory mandates to encourage alternative vehicles standing alone may not be sufficient to overcome the market based obstacles to EVs. It is significant that in California where the regulatory requirements to consider alternative fuels are among the most far-reaching in the nation, the California Electric Vehicle Task Force has drafted a commercialization plan which acknowledges that market development incentives are extremely important to the future of EVs.

Specific Recommendations for Tax Incentives to be Considered

Legislation already pending before the Committee, H.R. 2269, introduced by Representative Andrews, would provide an investment tax credit for vehicles powered by clean-burning fuels. Because of the way in which this legislation is drafted, however, the incentive it would provide for converting vehicles powered by gasoline to run on clean burning fuels would not be available to manufacturers of electric vehicles.

Specifically, "clean-burning fuels" are defined in H.R. 2269 as natural gas, liquefied petroleum gas and methanol, ethanol or other alcohol fuels. Electricity is not included in the enumeration of clean-burning fuels, and for this reason electric vehicle producers would presumably not qualify for the new tax credit the measure proposes.

In any tax proposal designed to encourage the use of alternative fuels, at a minimum electricity must be included in the definition of "clean burning" or "clean alternative" fuels. The precise language of H.R. 2269 regarding equipment qualifying for the credit may also require refinement to assure that electric vehicles are included in the tax credit program. Equal treatment must be afforded EVs if the full range of potential alternatively fueled vehicles is to be available, and to assure that other, less environmentally beneficial alternatives are not encouraged at the expense of EVs. Moreover, it may be appropriate to create a sliding scale credit for "clean fuel" vehicles, so that the most environmentally beneficial vehicles are given the greatest credit.

Consideration should also be given to creation of an investment tax credit or other tax incentives designed specifically to encourage EV production. Such a credit could be designed around the following principles:

- An investment tax credit could be available to manufacturers of electric vehicles, to spur them to make the investment needed in production facilities, to increase production levels and reduce the high manufacturing cost of electric vehicles at low volume production.

- Alternatively, or in addition, a credit could be given to manufacturers for actual EV sales. To increase the environmental benefit of such an incentive, the credit could be restricted to sales of vehicles to be used in designated areas that have been unable to attain federal air quality standards due to mobile source pollution.

- Either tax credit could be transferrable, to encourage the formation of inter-industry relationships necessary for the creation of a production capability and a sustained EV market.

- The tax credit's duration could be limited to ten years, to reflect the increasing pressure for environmentally acceptable vehicles that will occur during the decade of the 1990's, which, along with federal tax and other incentives, should produce a self-sustaining EV market.

Another series of tax incentives which should be investigated would be those directed to ultimate vehicle purchasers. In recognition of the fact that, for both the technical reasons described above and environmental reasons, the initial vehicle market for electric vehicles is expected to be urban vehicle fleets, appropriate credits could be available to commercial vehicle fleet owners. For example, a business investment tax credit could be offered for investment in electric vehicles to replace conventionally-fueled fleet vehicles. A credit could also be provided for individual buyers, as an incentive to encourage EV penetration into the consumer vehicle market.

Either purchaser credit could be calculated in one of several ways. A vehicle purchaser could claim a credit for a specific percentage, such as 10 percent, of expenditures for an electric vehicle or vehicles. Alternatively, the credit could be calculated as the difference between the purchase price of an EV and the cost of a comparable gasoline-powered vehicle, or some established percentage of this differential. One other option would be to tie the amount of the credit to the difference in cost of the EV and a conventional vehicle over the vehicle's life (life cycle cost). As either purchase prices or life cycle costs of EVs and conventional vehicles approach parity, the credit could be reduced and ultimately eliminated.

Any of these incentives would, we believe, offer meaningful help to many entities interested in the establishment of a electric vehicle marketplace and offer assistance in overcoming the significant cost disparity that will exist between EVs and gasoline-powered (and other clean-fueled) vehicles in the early years of EV commercialization.

Conclusion

Electric vehicles can provide convenient transportation in an environmentally acceptable manner. The emissions reductions that can be achieved by substituting electric vehicles for conventionally-fueled vehicles are significant. As shown in Attachment 3, electric vehicles emit 98 percent less reactive hydrocarbons, 89 percent less NO_x and 99 percent less CO than gasoline powered vehicles. Electric vehicles have the associated benefit of offering an important means to reduce our growing national dependence on unstable supplies of imported petroleum.

The federal government can and should assume a leadership role in encouraging electric vehicle production and technology advancement to assure that the environmental and energy security benefits of EVs will be achieved. The current lack of domestic facilities for the production of electric vehicles has kept the per vehicle price prohibitively high, which has limited consumer interest in and experience with this technology. In turn high purchase costs, as well as lack of actual on-the-road experience, have kept EV demand below the level necessary to justify manufacturers' investment in production facilities. Breaking this Catch 22 situation requires carefully designed incentives; otherwise EVs will continue to be produced in only very small numbers at uneconomic costs. The potential benefits to the nation of EVs -- reduced vehicle emissions and enhanced energy security -- justify consideration of tax code provisions that would assist in the development of an electric vehicle industry.

California Air Resources Board
1989 Emission Comparison
Grams/Mile Emission Results
1989 California Air Resources Board Report

Vehicle Type	Reactive HC			CO	NOX
	Total	Exhaust	Evaporative		
Gasoline	0.39 Electric is 64 times better	0.35 Electric is 57 times better	0.04	1.40 Electric is 174 times better	0.66 Electric is 8 times better
Methanol	0.34 Electric is 55 times better	0.25 Electric is 40 times better	0.09	1.00 Electric is 124 times better	0.45 Electric is 5 times better
LPG	0.20 Electric is 32 times better	0.20 Electric is 32 times better	0	1.40 Electric is 174 times better	0.27 Electric is 3 times better
CNG	0.19 Electric is 30 times better	0.19 Electric is 30 times better	0	0.10 Electric is 11 times better	0.44 Electric is 5 times better
Electricity	0.006	0.006	0	0.008	0.07

Source: California Air Resources Board, Mobile Source Division, Definition of a Low-Emission Motor Vehicle in Compliance with the Mandates of Health and Safety Code Section 39037.05, May 1989.
These emission reduction calculations do not reflect CARB's ozone reactivity factors.

Method used to calculate times better numbers:
Times better is the difference between the two emission results divided by electric's emission results.
For example gasoline total Reactive HC vs. electric total Reactive HC is (.39 - .006) / .006 = 64

Attachment 1

California Air Resources Board
1989 Emission Comparison
Tons/Year Emission Results
1989 California Air Resources Board Report

Single Vehicle at 20,000 miles/year	Total Reactive HC (Pounds)	CO (Pounds)	NOx (Pounds)	Total Pollutants (Pounds)
Gasoline Powered	17.181	61.674	29.075	107.93
Electric	.264	.352	3.084	3.70

1000 Vehicle Fleet at 15,000 miles/year	Total Reactive HC (Tons)	CO (Tons)	NOx (Tons)	Total Pollutants (Tons)
Gasoline Powered	6.443	23.130	10.905	40.478
Electric	.099	.132	1.157	1.388
Total Pollutants Reduced	6.344	22.99	9.74	39.09
Percent Reduced	99%	99%	89%	97%

Source: California Air Resources Board, Mobile Source Division, Definition of a Low-Emission Motor Vehicle in Compliance with the Mandates of Health and Safety Code Section 39037.05, May 1989.

Attachment 2

Air Quality Improvement Potential of Alternate Clean Fuel Vehicles

% Emissions Reduction Compared to Gasoline

Alternate Clean Fuel Vehicle (Passenger)	Reactive HC		*CO*	*NOX*
	Total	*Exhaust*		
Electric	98% less	98% less	99% less	89% less
CNG	51% less	46% less	93% less	33% less
LPG	48% less	43 % less	Same	59 % less
Methanol	13% less	29% less	29% less	32% less

Source: California Air Resources Board, Mobile Source Division, Definition of a Low-Emission Motor Vehicle in Compliance with the Mandates of Health and Safety Code Section 39037.05, May 1989.

Attachment 3

Forrest E. Hoglund
Chairman and Chief Executive Officer
of Enron Oil & Gas Company

SUMMARY

Previous experience with Section 29 tax credit incentives for development of nonconventional natural gas has shown sharply higher activity levels caused by the incentives. The tax credit mechanism is effective from the government's standpoint, since operators must risk capital to be in position to take advantage of it, and it is only paid if there is production actually generated and the company is in a taxable position. Today, coal seam gas still has the incentive and it is one bright spot in a depressed industry--the technology has been developed to unlock substantial coal seam gas reserves. The tight sand resource base is very large, but due to the higher costs of drilling and completing wells in tight sands, current drilling activity is low. Benefits from reestablishing the tax credit for tight sands would be (1) additional supplies to help keep oil imports lower and keep natural gas consumer prices down, (2) environmental benefits from additional supplies of the cleanest fuel, and (3) maintenance of the infrastructure in the domestic industry and further development of new technology.

From a company position, Enron Oil and Gas is basically spending its available cash flow to develop new supplies. The Company has been very successful with production volumes in the first two months of 1990, 40% over the 1989 production level. If tax credit incentives for developing tight sands were reinstated, any cash flow generated from the tax credits would be spent on drilling tight sand wells. Enron Oil and Gas has the opportunity to increase their tight sand activity substantially, once the economics for that development improve.

BENEFITS FROM SECTION 29 TAX CREDIT RESTORATION:

1. Additional supplies will help keep oil imports down and help keep natural gas consumer prices down.

The rapid buildup of oil imports is of serious concern from the country's balance of payments standpoint, as well as losing the ability to control our own energy destiny. With oil imports now at 54% of U.S. demand and growing, any sharp price hike such as experienced in the late 1970s and early 1980s would have a very strong negative impact on the trade balance. Inflation has also been shown to track oil prices over the longer timeframe. Creation of a national natural gas market and the strong supply/demand relationship has kept natural gas prices low the latter half of the 1980s and additional gas supplies will tend to keep consumer prices down. The cost of producing the tax credits is not large when viewed against these factors. In fact, if gas prices were kept lower by only 1¢, that would amount to about $180MM savings per year for consumers, which is less than the program would cost.

2. Environmental benefits from natural gas.

Increased natural gas supplies will allow additional use of natural gas in providing a better environment. Long life tight gas sand wells are a good source of supply for new electrical generating capacity. Increasing natural gas supplies should have a high priority in providing help to the environmental effort.

3. Maintenance of the infrastructure in the domestic industry and further development of new technology.

Incentives to provide additional wells drilled in tight formations will help promote new and better technology in drilling and completions. New hydraulic fracturing technology has improved the tight sand results and further gains can be expected. However, with the high costs of operating in tight sand areas, little drilling is being undertaken today. In some areas where Enron Oil & Gas operates, wells can cost $300M to $500M to drill and completion and fracturing costs can run almost the same amount. Natural gas prices today don't provide enough incentive to drill many wells with a cost that high. With a tax credit incentive of 52¢/mcf, the economic effect is like having a higher price of 80¢/mcf for your gas. That is certainly incentive enough to get more wells drilled.

4. Enron Oil & Gas position.

Our company is active in several tight sand areas in Texas, Utah, and Wyoming. By having tax credit incentives restored to tight sands, it is estimated that up to 500 additional wells could be drilled. The economic benefits of a 52¢ tax credit would provide a strong incentive to move forward with an active drilling program. Providing incentives based on actual production levels seems like the lowest cost way for this nation to work toward achieving its economic and environmental objectives.

Introductory Remarks of Congressman Dean A. Gallo of the 11th Congressional District of New Jersey before the Committee on Way and Means

United States House of Representatives

March 7, 1990

Mr. Chairman, thank you for this opportunity to testify on ways in which the Federal tax system could be used to improve the quality of our environment and to protect it from further devastation.

With traffic gridlock and the resulting air pollution plaguing our cities and surrounding areas, I believe we must look towards mass transit to help solve these complex problems.

Recently, I introduced a bill, H.R. 4043 to provide for employer-provided mass transportation benefits -- a tax incentive comparable to that given to employer-provided free parking. This commuter incentive will promote cleaner air over our most polluted urban areas and ease the traffic gridlock that has become a daily frustration for millions of Americans.

Currently, employer-provided parking is not taxed, while employer-provided transit passes are taxed in full if their value exceeds $15 per month. Given the increasing cost of commuting on buses, trains, subways and van pools, this amount is grossly inadequate. My bill would establish a tax-free $75 per month employer-provided fringe benefit to reimburse mass transit users.

My Mass Transit Incentive Plan recognizes that we cannot continue to build bigger and bigger roads and pump more and more pollutants into the air by encouraging automotive, rather than mass transit, commuting habits. The tax laws clearly discourage the use of mass transit and discriminate against its users. The individual who drives to work and parks in his or her parking place can recover his or her parking costs tax-free, but the individual who commutes by train, bus or subway receives no such help.

By reducing the number of cars on the road at rush hour, we would improve the quality of our air and relieve the pressure on our nation's highways.

Consider the facts as they directly affect my area of Northern New Jersey which is similar to other urban and suburban areas.

Roughly 102,000 people drive into New York City each weekday.

New York City officials estimate that 43 percent of these drivers receive tax-free employer-provided parking subsidies. Of these drivers 16 to 25 percent say they would switch to mass transit if it were more affordable. That would mean up to 25,000 fewer cars on the road.

Automobiles are the largest single contributor to the ozone and carbon monoxide problems in New York and in the entire Northeast.

The answer is obvious. Each time a commuter chooses mass transit over driving to work he or she is making a significant contribution to reducing air pollution, making productive use of time formerly spent in traffic and saving the cost and environmental losses caused by destroying open space for new roads and parking lots.

New Jersey is not alone in facing this critical problem. Traffic gridlock and air pollution plague most of our nation's cities and suburbs. Now, more than ever, we need alternatives to auto travel for commuters.

Mass transit represents a necessary investment in the future of our nation. Continued economic development and continued improvement in the quality of our lives will not be possible without it.

Again, I want to thank Chairman Rostenkowski and Ranking Member Archer for this opportunity to participate with you in this most important task.

Statement of General Motors Corporation
to Committee on Ways and Means on
Uses of Fees, Subsidies and Taxes to Achieve Environmental Goals
March 19, 1990

General Motors is pleased to have this opportunity to submit comments on the role that fees, subsidies and taxation can play in promoting environmental quality. The Ways and Means Committee is to be congratulated for conducting this set of hearings. GM has long supported policies that rely on broad-based economic incentives to achieve society's environmental objectives in the most cost-effective manner.

It is critically important that the Congress search for public policies that work with the marketplace to achieve social objectives and recognize that a sound economy is an essential prerequisite for a sound environment. By contrast, Congress needs to avoid excessive reliance on "command and control" regulations that mandate inflexible source-by-source targets or even the use of specific technologies to reduce environmental pollution.

Our advocacy of policies that promote a sound economy extends, of course, beyond environmental policy. Our support for tax reform in 1986, and the general principles of base broadening and non-interference in economic decision-making that those reforms embodied, stems from a belief that such reforms can improve the efficiency of our economy. Where markets are functioning well, taxes levied at relatively high rates on narrow bases introduce distortions into economic decision-making that can only harm our economy. Market forces, free of excessive government intervention, generally provide the best guides for economic decision-making — a conclusion that is gaining increasing acceptance around the world in this era of "perestroika" in Eastern Europe.

Of course, the unfettered operation of markets does not always produce socially acceptable outcomes. Such is often the case where the environment is concerned. Because the use of the environment is generally not priced, no market forces restrain potential polluters from imposing uncompensated costs on others — external costs or "externalities" in the jargon of economists. Here again, however, General Motors believes, as do most environmental economists, that the best solutions to the problem of externalities are generally those that work with market forces and not against them. Properly designed programs based upon environmental fees and/or subsidies can represent such a market-based solution. Thus, we are pleased that the Committee on Ways and Means is considering the role that taxes and fees can play in promoting environmental quality.

Criteria for a Sound Environmental Fee/Subsidy Program

What constitutes a properly designed environmental fee/subsidy program? We believe that such a program should incorporate three desirable characteristics. First, to ensure cost-effectiveness, all sources or potential sources of emissions should face the same incentives on the margin. Second, the level of fees or subsidies should be set roughly equal to the cost that the avoided pollution would have imposed on society. Third, and finally, environmental fee levels should be set according to their impact on the environment and the economy and not on the basis of their revenue potential.

Equality of Incentives on the Margin and Cost-Effectiveness

The first of these design criteria recommends that environmental fee or subsidy programs not discriminate among various emissions sources, guaranteeing that all polluters or potential polluters face the same incentives on the margin. If this recommendation is met, no one sector of the economy will be asked to bear costly pollution control expenditures when less costly controls can be implemented elsewhere. In addition to its obvious fairness, this recommendation would ensure that pollution control will be cost-effective -- so that each dollar spent on pollution control is achieving its maximum possible effect; or, alternatively, that for any given improvement in environmental quality, the total costs of control to the economy is minimized. Thus, General Motors believes it is unwise to propose any fee/subsidy program that singles out one sector of the economy for special attention or exempts another when more than one sector can be identified as a source of a particular pollution problem.

One way to ensure that all emitters face the same incentives on the margin is to set a fee schedule, applicable to all sources, that is directly proportional to the amount emitted; e.g., to set a fee expressed in dollars per pound. Other, more complicated tax/subsidy schemes may be used if it is desired that the program be revenue neutral, but preservation of equal incentives on the margin is crucial to pursuing cost-effective approaches.

Ideally, therefore, fees and/or subsidies should be set on the basis of measured emissions levels. This ideal scheme will not always be practical, however. Sometimes it may be easier to impose fees on some commodity that is directly tied to the production of emissions rather than the emissions themselves. Thus, for example, many policy analysts have suggested the possibility of using a "carbon fee" as a means of encouraging reductions in the amount of carbon dioxide released into the atmosphere. Such a fee, levied on fossil fuels based on their carbon content, would clearly be easier to administer than a tax on the carbon dioxide emissions themselves. But such a program would work well only because carbon content is an exceptionally good proxy for carbon dioxide emissions -- since carbon dioxide is the inevitable end-product of the complete combustion of carbon. When a fee is levied on a good whose consumption cannot be so directly tied to actual emissions, however, an environmental fee/subsidy program may fail to be cost-effective.

Fee Levels Should be Set Equal to the Costs of Avoided Pollution

A second design criterion for a sound environmental fee or subsidy program is that the level of the fee or subsidy be set roughly equal to the cost that would have been imposed on society by each unit of avoided pollution. If set too high, fees or subsidies could produce spending to reduce pollution that is grossly out of proportion with the costs of the pollution problem itself. On the other hand, fees set too low would fail to induce reductions in pollution commensurate with the severity of the problem.

This consideration -- that fees should be set according to the cost of avoided pollution -- leads to conclusions about the limited role that federal

policy should play in dealing with environmental problems that are fundamentally local in their origin and effects. Uniform fees set at the federal level are generally an unwise way of dealing with such problems. The issue of ambient air quality, for example, is a far more serious concern in urban southern California than in most rural areas. No uniform nationwide fee or subsidy program could appropriately balance the costs and benefits of pollution control in both southern California and areas where the issue of ambient air quality is a less urgent concern. Therefore, it is appropriate that pollution problems which are local in origin and impact be dealt with through local, rather than federal, environmental fees or subsidies.

Fees Should Be Set According to Environmental and Not Revenue Goals

A third, and closely related, design criterion for an environmental fee program is that the primary purpose behind the program should be to alleviate an environmental problem and not to raise revenue. Fee levels should therefore be set according to their impacts on the environment and on private costs of pollution control and not according to their revenue impact. This conclusion follows since environmental fees are "user fees" designed to produce a socially desired result at the lowest cost.

General Motors has consistently opposed the use of specialized excise taxes whose primary purpose is to raise general revenue, although we do not oppose such taxes when they can be validly characterized as user fees. This principle, for example, lies behind both our opposition to using higher gasoline taxes to fund general revenues and our continued support for dedicating such taxes to the highway trust fund.

Similarly, while properly designed environmental user fees — set with regard to the costs and benefits of pollution reduction — can represent sound public policy, environmental taxes — designed primarily to raise revenue — do not. Since a fee would raise significant amounts of revenue, however, Congress should consider carefully the possible uses of that revenue. Rather than spend it on new or existing programs, consideration should first be given to returning the revenues to the economy by lowering existing taxes or to reducing the federal deficit.

An Evaluation of Some Specific Tax Proposals

We urge the Committee to weigh specific proposals for environmental fees, taxes or subsidies against this list of criteria that a well-designed program should meet. We feel confident you will find areas where such proposals could offer significant improvements over current command-and-control regulations. At the same time, however, consideration of these properties should lead you to reject consideration of higher gasoline taxes and/or gas guzzler taxes as efficient instruments to improve the environment.

Gasoline Taxes

As previously noted, General Motors has consistently opposed the use of gasoline taxes for general revenues. This position is based in large part upon the view that it would be inequitable to ask two otherwise similar citizens to

contribute substantially different amounts towards reducing the federal deficit merely on the basis of how much they drive. It is unfair, for example, to place a disproportionate burden on citizens in rural areas, who must rely extensively on cars and trucks for both personal and business transportation, while placing a much smaller burden on urban residents. Unfair, as well, would be the disproportionate burden higher gasoline taxes would place on those employed in the motor vehicle industry and related supplier industries. General Motors' Economics Staff has estimated that a gasoline tax increase of 15 cents per gallon would cut sales of domestic cars and light trucks by 500,000 units per year. Similar estimates have been derived by others, including economists at the Federal Reserve Board and at the leading private economic forecasting services. Sales reductions of this level would lead to the loss of roughly 75,000 domestic jobs in the motor vehicle and related supplier industries.

Increased gasoline taxes would also be quite regressive — costing the poorest, with incomes under $5000 per year roughly six times as much as a percentage of income as those with incomes in excess of $50,000. Finally, like any other narrowly based excise tax, a gasoline tax distorts economic behavior.

Some would seize upon this very distortion — that higher gasoline taxes discourage driving — to urge that gasoline taxes should be increased to further environmental goals. The federal gasoline tax, however, is a poor tool for attacking the environmental issues that are popularly linked with gasoline consumption — local ambient air quality and possible global climate change.

The federal gasoline tax is not a useful instrument for attacking the issue of local ambient air quality for three reasons. First, gasoline consumption is a relatively poor proxy for vehicle emissions levels, which differ substantially among cars depending largely upon their age and the care with which they have been maintained. Charging a uniform "pollution fee" on the basis of gasoline use would effectively discriminate against the drivers of newer or better maintained, lower emitting vehicles while providing the owners of older or poorly maintained, higher polluting cars with insufficient incentives to reduce their contributions to total vehicle emissions. Second, gasoline taxes can address only mobile source emissions, when many stationary sources also contribute to local ambient air quality problems. Finally, the federal gasoline tax cannot be varied by region to reflect the differences in the severity of pollution problems. If pollution fees are to be useful in addressing local air quality problems, they should be set locally at a level appropriate for the particular locality.

Gasoline taxation is also far from ideal as a global climate change policy. If steps are to be taken to slow possible global climate change attributed to the build-up of greenhouse gases in the world's atmosphere, effective policies will have to focus on emissions of all greenhouse gases worldwide. Policies which focus merely on gasoline use in the U.S. are doomed to failure, because carbon dioxide from all U.S. cars, trucks, and buses accounts for only 2.5 percent of human emissions of greenhouse gases worldwide. (And, this share is likely to decline as economic growth and energy use

accelerate in other countries of the world.) Moreover, policies, like the gasoline tax, that seek to limit only a single source of greenhouse gas emissions may overlook the possibility that significantly less expensive sources of emissions reductions are available elsewhere.

Gas Guzzler Taxes

This criticism of the gasoline tax as an environmental fee is even more true of the proposals to raise the gas guzzler tax or lower the gas guzzler threshold. The gas guzzler tax, which is imposed only on new cars falling below a certain fuel economy threshold, could affect only an extremely small percentage of the world's carbon dioxide emissions. In doing so, it would penalize only one very limited use of fossil fuels, while potentially ignoring the legitimate needs of consumers who need vehicles like full-sized family cars and station wagons.

Like higher gasoline taxes, lower gas guzzler thresholds or higher rates could also have an adverse impact on domestic auto industry employment. For example, preliminary GM Economics Staff estimates suggest that raising the gas guzzler threshold by one mile per gallon from 22.5 mpg to 23.5 mpg would result in lost domestic sales of more than 30,000 units. Because these units are relatively larger and more expensive than the average vehicle and their production and that of their components require relatively more labor than average, the loss of these 30,000 units could lead to a loss of more than 10,000 domestic jobs in the automobile and related supplier industries.

Conclusion

General Motors commends this committee for its interest in how economic incentive programs based upon environmental user fees or subsidies can aid the environment. We encourage such innovative thinking and hope that well-designed environmental programs based upon the use of economic incentives will increasingly be used rather than the outdated approach of command and control.

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STATEMENT OF
GEORGIA-PACIFIC CORPORATION

SUBMITTED TO THE HOUSE
WAYS AND MEANS COMMITTEE

U.S. HOUSE OF REPRESENTATIVES
MARCH 19, 1990

The Georgia-Pacific Corporation submits these comments in response to the Ways & Means Committee's inquiry into the possible use of the Federal tax system to improve the environment. While several of the subjects raised in the Committee's announcement of the March 6 and 7 hearings are of concern to Georgia-Pacific, these comments are specifically directed towards those issues relating to encouraging the recycling of paper products, particularly the possible denial of deductions for the cost of harvesting virgin materials and the imposition of an excise tax upon such harvested materials. These comments will also address the possible imposition of a severance tax on the logging of "old-growth" redwoods and the taxation of tropical timber imports. Georgia-Pacific is a member of the American Paper Institute and endorses the Institute's testimony on those other relevant issues on the Committee's agenda affecting the forest products industry.

Georgia-Pacific Corporation is one of the world's largest manufacturers of paper and wood-based products and, as such, has a great concern for the welfare of this nation's forests and the continued encouragement of recycling as a means by which to preserve those natural resources which are vital to the paper industry, an industry which provides products used daily by every American. The company, established in 1927 as a wholesaler of hardwood lumber, entered the pulp and paper business thirty-one (31) years ago. With its recent acquisition of Great Northern Nekoosa, the company now has annual manufacturing capacity of over ten million tons of pulp, printing and writing paper, tissue, liner board and corrugated containers. Georgia-Pacific has facilities in each of the continental United States and several foreign countries and employs approximately sixty-four thousand people. The corporation's building products production facilities and distribution network are the industry's most extensive, serving the entire United States as well as markets overseas.

The paper industry has an excellent record with respect to recycling and takes great pride in the fact that paper and paperboard account for more than 80% of all post-consumer materials collected in this country for recycling. In 1988, fully 25% of the paper industry's fibrous raw material input was waste paper and that rate is growing. By the end of 1995, a projected voluntary goal of 40% paper recycling can be achieved, with 40 million tons recycled annually compared to 26 million tons recycled in 1988. Georgia-Pacific, along with the entire industry, is committed to achieving this recovery rate through major recycling capacity expansions.

The paper industry is continuously improving its technology and expanding its capacity for recycling efforts. But, regardless of how expansive such recycling efforts are, virgin fiber is essential to the production and recycling of paper products. The ultimate characteristics of paper are determined by the fibers used in its manufacture. The type of wood, hard or soft, and the method of pulping, mechanical or chemical, determine the length of the fibers. The longer the fibers, the more strength and tear resistance the paper will have. Paper made of short fibers, while better suited for printability, is not as strong or as durable. The fiber not only determines the basic characteristics of the paper,

but also provides the integrity that holds the paper together. If the fibers become too short or suffer a deterioration, paper integrity cannot be maintained and the process of paper manufacture cannot be successful.

After repeated recycling, fibers deteriorate and break down. The integrity of the pulp is lost and paper can no longer be formed. Without the addition of virgin fibers, all that would remain is a mush of decayed fibers. New virgin fiber must be continually introduced into the overall fiber supply to replace those fibers that are no longer usable and to enhance the properties and characteristics of those which are reusable. Therefore, there will always be a need for virgin material in recycled paper. The concept of a tax on these virgin materials fails to recognize and take into account the unique and crucial role this raw material has in the recycling process.

The industry and our company are committed to continuing our impressive record of utilizing waste paper as a raw material in the manufacture of paper and paperboard, a record which has been developed through three hundred years of paper recycling experience. A recent industry survey indicates that, over the next three years, consumption of waste paper for use as a raw material resource will grow twice as fast as virgin fiber consumption. This demonstrates that the industry already has a great commitment to recycling.

A tax on virgin fiber production is not necessary to encourage further paper recycling and would actually serve as a disincentive to recycling. Such a tax would discourage efforts now under way to expand paper recycling because it would siphon resources essential to the expansion of recycling capacity from the very manufacturers counted on to make the capital investments to develop new capacity. Georgia-Pacific does not need tax incentives to encourage recycling; it is already committed to an extensive recycling program. In fact, a tax on virgin fiber would serve as a great disincentive to the ambitious programs to which Georgia-Pacific has already committed itself.

The concept of a tax on virgin materials also fails to take into account that paper is made from a renewable natural resource. Forest cultivation and management play an important role in the paper industry. Since the economic well-being of the industry is dependent on a sustained supply of this natural resource, the incentive to maintain forest lands already exists. Each day approximately six million trees are planted by the forest products industry. These trees will grow for years before they are harvested, providing a variety of environmental benefits over that time period. A tax on the harvesting of virgin materials would be a disincentive to the continuation of this practice, since the investment being made in this natural resource would lose value with the imposition of such a tax. Such a disincentive would also negate the environmental benefits of well-planned forest management, including current reforestation efforts.

This tax would be a disincentive to plant trees and maintain forest land at a time when the vitality and renewal of forests is of concern both nationally and internationally. In addition, this tax would have the immediate effect of financially devaluing the forest lands - an adverse financial impact which would be felt by private individual landowners as well as industrial landowners such as Georgia-Pacific.

With respect to the proposed tax itself, the burden it places would fall unequally on virgin products and result in double and sometimes triple taxation of the same product. Virgin pulp producers would be taxed and then a non-

integrated paper manufacturer in the same SIC Code would also pay the tax on its product. A paper converter would then pay the tax a third time before the product finally reaches the consumer market. For example, the virgin materials tax would be levied on the manufacturer of market pulp, the manufacturer of coated food board and the manufacturer of paper cups, the third producer in the chain. In other words, at a tax rate of $7.50 per ton, the paper cup manufacturer would have had a $22.50 per ton tax levied on it. Furthermore, only some virgin products subject to the tax would face the same triple tax threat, adding another level of inequity to the proposed tax. A plastic cup manufacturer, by comparison, may only be taxed once.

Such a tax structure is also unfair to those producers who would be paying the tax for the second or third time on the same virgin material, while competitors with integrated production facilities would only have the tax imposed once. This creates an unfair competitive advantage for those companies with the means to avoid double or triple tax consequences. Furthermore, any attempt to resolve this inequity administratively would prove untenable, with the same attendant administrative headaches that a value-added tax (VAT) would have.

Georgia-Pacific reiterates its opposition to the imposition of such a tax on virgin materials for the following reasons:

First, the tax will discourage those companies that are committed to building new recycling capacity from doing so by reducing needed capital to accomplish the ambitious goals set by the industry. For Georgia-Pacific alone, this new tax could increase our effective federal tax liability by over 24%, based on taxes paid in 1988. The diversion of this amount of capital would have a significant impact on Georgia-Pacific's ability to implement an ambitious agenda for an expanded recycling program for the 1990s.

Second, this tax would serve as a disincentive to the production and harvesting of virgin timbers, resulting in increased costs of consumer products, poorer quality paper products and forest resource management problems. As stated earlier, virgin timber is necessary to achieve a successful recycling program. Product quality and integrity become unacceptable if one relies on recycling only recycled paper products. Furthermore, there are substantial environmental benefits that result from the active management of our forest resources. Reducing the viability of those enterprises can have negative effects on other important environmental policy objectives.

Third, this tax would fall unequally on virgin products and result in double and sometimes triple taxation of the same product. At the proposed tax rate of $7.50 per ton, a paper cup made from virgin material could have a tax as high as $22.50 per ton levied on it. This would be inequitable to manufacturers using partially refined virgin material and would create an unfair competitive advantage for manufacturers of alternative, but less recyclable, products. This would be contrary to the purposes of such legislation.

Excise Tax on "Old-Growth" Timber

Georgia-Pacific is also concerned about the proposal to tax the harvesting of "old-growth" timber, i.e., "old-growth" redwoods. This proposed tax is based upon two theories: one, which is to make harvesting of "old-growth" redwoods and

Douglas fir uneconomical, thus protecting them; and the other, that these trees are not renewable.

Redwoods and Douglas fir are found primarily in the Northwestern United States, with a large concentration of redwoods in Northern California. California is a vigorous protector of these redwoods, with state forest practices regulation and a permitting program that places very stringent controls on harvesting such trees. In addition, much of the truly "old-growth" redwoods are largely protected in national and state parks in the state of California. The protection these parks afford, coupled with stringent harvesting restrictions, are sufficient to preserve "old-growth" timber.

There is a definitional problem with the term "old growth." The trees that are currently being harvested in areas of historical "old growth" are in reality second- and third-growth timber, that is, trees that have been replanted to replace timber that was cleared in the 19th Century. However, under the definition of "old-growth" that some proponents are espousing, such second- and third-growth timber would be characterized as old growth, and therefore any harvesting of it would incur stiff tax liability. This is unfair to those producers who had the foresight to replant redwood and Douglas fir trees long enough ago to have sufficient resources available for harvesting today. With proper resource management practices designed to replace regularly harvested timber, a commercial tree can be grown in thirty years.

This proposal for excise taxes is, therefore, not needed to protect "old-growth" redwoods.

Tropical Timber Imports

The possible taxation of tropical timber imports also concerns Georgia-Pacific. While Georgia-Pacific is concerned about global warming and the deforestation of tropical forests, an excise tax upon tropical wood imports is not a proper means for dealing with these issues. Commercial logging of tropical timber, although occasionally a local or even national problem, is not the primary cause of deforestation on a global basis. In 1982, the Food and Agriculture Organization of the United Nations issued a report on tropical deforestation which found that the greatest cause of forest loss was shifting agriculture. Therefore, a tax on tropical timber imports would have little impact on agricultural encroachment of tropical forests on a global level. Furthermore, what forest depletion that does occur due to commercial logging could be better controlled by proper forest management practices rather than through the tax code.

In order to discourage deforestation due to improper commercial logging, wood products harvesters must be induced to properly manage their forest resources. A new tax, which would only diminish the value of those resources by raising their production cost, would not provide the proper motivation for a grower to continue making an investment in the future regeneration of forest land. Those investors who already have a great deal of money invested in forest land, facing the prospect of lowered return on investment due to a greater tax liability, may even be induced to "cut their losses" and sell their remaining lumber and get out of the business altogether, leaving their tracts of land, which would have otherwise been replanted, barren. Furthermore, dry matter left behind from these logging operations could

present an even greater threat, as a fire hazard, to other adjoining forest land.

Georgia-Pacific is working with the Brazilian government's forestry department on a program to manage scientifically these tropical forest lands to produce the same continuous timber yield as Georgia-Pacific's U.S. forests. Georgia-Pacific has instituted a program by which sustainable forestry has been attainable, and where a continued, profitable yield can be attained without any substantial derogation to the forest land being sustained. Therefore, a tax on products imported from these forest lands could not provide any additional incentive to manage these lands more efficiently and, in fact, would place a financial burden on those companies who, like Georgia-Pacific, currently have forest management programs which produce timber that in no way represents lumber taken from deforested land.

One way to provide incentives for the proper management of that tropical timber to be imported into the United States would be to establish an import certification program. Such a program would differentiate between those producers which are currently managing their forest resources effectively and those who exploit the resources without reinvesting and replanting, and would place a financial disincentive upon such exploitation. Such a program could be instituted as part of the customs requirements and would require a certification that all tropical timber entering the United States was harvested from sustained yield forest management programs. Georgia-Pacific could support such a certification procedure containing the following principles:

1. Imports will only be prohibited or taxed if they come from regions that lack a qualifying forestry management program (i.e. one that requires good principles of sustained forestry management).

2. Standards for evaluating tropical forestry programs will be developed through the International Tropical Timber Organization (ITTO) in conjunction with representatives of the regions and/or countries where tropical forests are located.

3. A reasonable timetable will be established for the implementation of these standards (approximately four to five years).

4. The possibility that "debt for nature" exchanges will be allowed in which the United States would forgive or reduce the debts of foreign nations in exchange for the establishment and enforcement of model tropical forest management programs.

An import certification program embodying these principles would provide a much greater incentive to preserve forest resources than an indiscriminate tax on all tropical imports would. Such a tax would serve only as an artificial import restriction on tropical timber and would not encourage the conservation of tropical forests.

Conclusion

In addition to the reasons stated herein, Georgia-Pacific also opposes these proposals because they call for the imposition of new taxes. No matter how these charges are characterized, as a user fee, as an environmental fee or by whatever nomenclature, they are new taxes.

If the goal of such taxes is to improve the environment, then there are clearly better ways to achieve that goal than by complicating and fragmenting the tax code. Some of these alternatives have been discussed in this testimony. The only other legitimate purpose that such taxes can have, then, would be raising revenue to lower the federal deficit or to expand federal programs. Our view is that the growth in federal spending must be brought under control before attention is focussed upon raising new revenues.

According to the Administration and the Congressional Budget Office, revenues will increase over the next five years by some $400 billion. We believe that the government should emphasize using these funds to lower the federal deficit. Georgia-Pacific believes that the government's fiscal policy should be focused upon the continued control of expenditures rather than raising taxes. In addition, the constant threat of increasing taxes which, if passed, increase the cost of doing business, correspondingly increases the cost of capital.

Increased reliance on special taxes marks a significant change in federal tax policy. By raising dedicated taxes to pay for popular services people want from the government, it will be more difficult to raise general taxes for purposes less popular but just as important to our society.

Finally, if such taxes were used to finance expanded government operations, the cost of the expanded bureaucracy would negate any potential deficit reduction these revenues may have. Fiscal policy should address the continued control of expenditures, not an increase in the tax base, to address deficit concerns in a manner having a positive effect on interest rates and the cost of net capital. Therefore, these excise taxes fail to achieve either of the two main goals they could hope to accomplish, namely the improvement of the environment and the reduction of federal deficit.

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March 19, 1990

The Honorable Daniel Rostenkowski
U.S. House of Representatives
Ways and Means Committee
Washington, D.C. 20515

Dear Representative Rostenkowski,

This statement is submitted FOR THE RECORD of the hearings held by the House Ways and Means Committee concerning proposed taxes for environmental purposes. Specifically, I am commenting on the proposed packaging tax based on the weight of virgin materials used in packaging (see H.R. 3737).

The glass container industry understands there may be a need for an "environmental" tax to help fund the establishment of recycling infrastructures. However, we oppose a weight-based tax on virgin materials because it favors lighter-weight, difficult-to-recycle materials (such as plastic) at the expense of denser, 100 percent recyclable materials (like glass).

If a tax is necessary, we favor a tax based on the value of the raw materials used in producing packages. Such a tax would be equitable and would not discriminate against 100 percent recyclable packaging.

Glass is 100 percent recyclable. An old glass bottle can be made into a new glass bottle again and again and again. This closed loop, or primary, recycling is particularly advantageous because it means that a glass container can be recycled endlessly and never needs to enter a landfill.

The glass container industry supports comprehensive curbside recycling programs as the most effective and efficient way to collect the greatest amount of all types of glass containers.

In addition, curbside recycling programs are more cost-effective than other disposal methods. In the summer of 1988, we released a study on the economics of curbside recycling programs entitled, "Comprehensive Curbside Recycling: Collection Costs and How To Control Them" (see enclosure). The study revealed that revenues from the sale of recyclables covers 45 percent of the cost of a curbside program. The remainder of the cost is realized by a decrease in landfill tipping fees.

The 40,000 men and women who work in glass container plants, located in 25 states, believe in glass and recycling as a solution to the solid waste crisis. In whatever measures government takes, we ask that all packaging be treated equally and comprehensive curbside recycling be considered as a basic recycling infrastructure.

If you have any questions about these comments, please do not hesitate to contact me.

Sincerely,

Lewis D. Andrews, Jr.
President

Tax Changes for Environmental Improvement

Testimony before the Ways and Means Committee
House of Representatives
United States Congress
6, 7, & 14 March 1990

Richard Heede
Research Associate
Rocky Mountain Institute

The tax system should not be used to hide the real costs of energy. Nor should tax incentives and other federal programs be biased toward particular energy-supply or pollution-abatement options without regard for the least costly means of providing energy services or a cleaner environment. Some suggestions for reorienting the economy toward sounder market and environmental principles are: first, eliminate all existing subsidies to the energy and resource extraction sectors. Second, induce producers and consumers to pay for environmental impacts through emissions taxes or "abuser fees." Third, adjust the gas-guzzler excise tax by adding revenue-neutral rebates for "gas sippers." Fourth, strengthen and improve fuel economy standards for automobiles and light-duty trucks. Pertinent federal program proposals and Congressional legislation should pass a least-cost test before taxpayers' earnings are spent.

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Good morning. I am grateful to the Chairman and members of the Ways and Means Committee for inviting my testimony here today.

The Committee has an historic opportunity to consider ways in which the tax structure can be tailored to improve the environment. Previous testimony before this Committee and elsewhere demonstrates that the tax system in some cases exacerbates environmental degradation, and that new tax legislation can simultaneously help clean up our environment and strengthen the U.S. economy.

Most Americans are now thoroughly confused by the prevailing scientific and political uncertainties regarding global environmental problems. If, for example, scientists cannot tell us with certainty that the threat of global warming is real, why should Americans pay billions of dollars for measures to reduce U.S. emissions of greenhouse gases? This question, gaining currency in the Administration, obscures effective solutions by assuming that reducing emissions will be costly. Numerous analyses have convincingly shown that limiting carbon emissions by reducing national energy consumption can be accomplished at zero net cost to society (because most technologies for saving electricity, for instance, cost *less* than operating power plants).[1]

The lesson here is that the United States can reduce emissions of greenhouse gases and acid deposition precursors *and save money* by investing in a multitude of cost-effective energy savings.[2] Our nation uses twice as much energy per unit of GNP as Japan and our

[1] Electricity savings often cost 0-2 cents per kilowatt-hour (~0.5 cent is typical in the commercial and industrial sectors), while operating costs of coal-fired power plants are typically 2-3 cents/kW-h. See Cavanagh, Ralph (1988), "The Role of Conservation Resources in Competitive Bidding Systems for Electricity Supply," Subcommittee on Energy and Power, Committee on Energy and Commerce, USHR, 31 March; Chandler, William U., Howard S. Geller, and Marc R. Ledbetter (1988), *Energy Efficiency: A New Agenda*, American Council for an Energy-Efficient Economy, Washington, DC; and Amory Lovins (1989), "Making Markets in Resource Efficiency," Rocky Mountain Institute, Snowmass, CO, appended.

[2] Detailed analyses of available electrical efficiency technologies, their electricity saving potential, and cost *vs* savings estimates are performed by Rocky Mountain Institute's COMPETITEK subscription service. Examples in all electricity applications abound, from advanced motors and controllers, quadruple-efficiency compact fluorescent lamps (which prevent the combustion of 828 lb of coal -- or 0.98 metric ton of CO_2 -- over their typical lifetime of 10,000 hours), advanced windows (as much energy leaks through American

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strongest European competitors. Our total energy bill is on the order of $400 billion per year[3] -- a third larger than the defense budget, from which people are hoping for a "peace dividend." Yet few people are searching for an "energy dividend" -- yielded by wiser use of energy -- and estimated to be as large as $220 billion per year.[4] Despite a plethora of counter-productive government policies (and some innovative programs, too), the United States and other "market" economies have dramatically reduced energy intensity since 1973 and are now saving hundreds of billions of dollars annually.[5,6] Cost-effective energy-saving technologies are available and are rapidly being installed in American homes and businesses, but the combination of institutional barriers, subsidies, lack of information, and underpriced resources prevent their optimal implementation. The U.S. needlessly foregoes saving money, resources, and pollution, worsening the nation's trade and budget deficits in the process.

Focusing on energy resources for the moment, it is clear from the outset that energy prices do not reflect the full cost of energy use. If energy is underpriced, consumers will over-buy supply and under-buy lower-cost energy saving options, leading to misallocation of resources, excessive emissions, and over-investment in costly new supply. The U.S. tax system is in part responsible for these inefficiencies by providing financial incentives for exploration and development of new energy supplies. Two points emerge: the tax system should not be used to hide the real costs of energy, and tax incentives and other federal programs should not be biased toward particular energy supply options without regard for the least-cost means of providing energy services. Furthermore, regulation is often less effective than appropriate market signals in reducing environmental impacts associated with energy use. The United States Congress needs to summon the courage and foresight necessary to restructure the energy and environmental policies of our nation. My suggestions for restructuring the tax system are:

- Eliminate all remaining tax subsidies to the energy sector. The Ways and Means Committee should be lauded for its role in creating a fairer and more productive tax system in the Tax Reform Act of 1986. Yet this Act, in its final form, did little to improve the state of the environment. It is now time to level the playing field between competing energy technologies and to put an end to fiscally and environmentally costly subsidies.[7] For example, the most capital-intensive form of energy, electricity, delivered 13% of U.S. energy but got $30 billion (65%) of fiscal 1984 subsidies, decreasing its apparent average price by about a fifth. Subsidies to promote more rapid depletion of America's petroleum resources cost taxpayers up to $13.5 billion in fiscal 1984 tax breaks (plus $2.5 billion in agency program outlays). The Tax Reform Act of 1986 changed the picture somewhat (no one knows by how much), yet tax incentives to the energy sector still cost the Treasury billions, leverage additional capital into suboptimal investments, aggravate our

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windows as flows through the Alaska pipeline), efficient appliances such as clothes-washers and refrigerators, commercial cooling and ventilation systems, and so on.

[3] Embedded in this cost to final consumers is tens of billions of dollars of capital investment in oil and gas exploration, coal extraction, electric utility plant, and energy infrastructure -- most of which would be uncompetitive with investment in savings were it not for a skewed tax structure and lack of information tilting the playing field toward capital-intensive energy supply options, irrational government programs, and a bureaucracy obsessed with expanding supplies with little regard for market-oriented least-cost options. Also, the U.S. oil import bill ballooned to at least $50 billion last year, draining our capital, aggravating our imbalance of trade, and buoying interest rates, causing further erosion of U.S. investment.

[4] $50 to $100 billion per year in the buildings sector alone, assuming, no doubt optimistically, that several market failures can be corrected. See Rosenfeld, Arthur, and David Hafemeister (1988), "Energy-efficient Buildings," *Scientific American*, April, pp. 78-85.

[5] As measured by 1985 industrial energy use per unit of industrial value added, expressed in units of metric tons of oil equivalent per $1000 (US1980), West Germany had an energy intensity of 0.18, Japan 0.21, and the United States 0.43; the average intensity decreased by 3.0%, 4.7%, and 2.4%, respectively, during 1973-1985. In other words, Germany's and Japan's energy inputs are less than half that of the U.S., and *their rate of improvement is faster*. International Energy Agency (1987), *Energy Conservation Indicators in EIA Countries*, OECD, Paris.

[6] While government policies vary (excise taxes, subsidies, information, regulation, RD&D), one common thread is the recognition that prevailing energy prices do not necessarily account for other costs such as depletion (instead of taxing energy to reflect depletion of a resource, the United States inverts the argument by providing an incentive -- in the form of a depletion allowance -- for more rapid extraction), environmental and social impacts, national security concerns over import vulnerability, etc.

[7] Tax subsidies to the energy sector alone cost the U.S. Treasury between $30 and $52 billion in fiscal 1984, the last time anyone, to my knowledge, estimated energy subsidies. Heede, H.R., R.E. Morgan, and S. Ridley (1985), *The Hidden Costs of Energy: How Taxpayers Subsidize Energy Development*, Center for Renewable Resources, Washington, DC, 28 pp; Heede, R., and A. Lovins (1985), "Hiding the True Costs of Energy Sources," *Wall Street Journal*, 17 September, p. 28, appended.

international trade deficit, boost interest rates through heavy federal borrowing, steer investments into environmental and fiscal boondoggles, and reduce private investments in energy efficiency and other environmentally benign energy options. Eliminating tax expenditures will have the added benefit of raising federal revenues. The United States needs economic *glasnost* -- energy prices that tell the truth.

Considering the importance of subsidies to capital investment, level of demand, energy imports, and environmental impacts, I also strongly urge the Congress to order one of its agencies (GAO, CBO, CRS, or OTA) to assess the cost and distribution of subsidies on a regular basis as an aid in considering legislation.

- Induce current producers and consumers to pay for environmental impacts through emissions taxes or "abuser fees." Environmental standards and regulations are not sufficient in a climate of energy and investment subsidies, weak standards, and lax enforcement in a society with a propensity for leaving more debts than wealth to our children. Taxing environmentally damaging emissions will reduce pollution and raise federal funds for further investment in environmental improvement and protection. In addition, a market in *pollution abatement* should be created to maximize avoided pollution. Appendix Two by my colleague Amory Lovins elaborates on this proposal.

  With respect to global warming, for example, a tax on the carbon content of primary fossil fuel resources should be imposed at the point of extraction or importation. A tax of about 1 or 2 cents per kilogram of carbon might be an appropriate starting point, and can be phased in over a predetermined period to allow the economy to prepare for the changing market signals.[8] Many analysts --- and some of the testimony presented before this Committee -- are recommending what I consider excessive and politically hopeless levels of tax on carbon emissions, frequently in the range of $25 to $50 per ton of carbon. These strategies attempt to levy a tax on carbon sufficient to stabilize CO_2 emissions solely through higher energy prices. The weakness in this line of argument is that it neglects to consider how optimally to invest the receipts for maximum emissions reduction. Creating a market in pollution abatement or energy savings is one recommendation. And cost-effective Federal investments, coupled with appropriate standards, should be prioritized according to *least-cost* carbon abatement opportunities.[9]

- Adjust the gas-guzzler excise tax by adding rebates for "gas sippers." This is a revenue-neutral approach to encourage the purchase of efficient automobiles and light-duty trucks, and should supplement, not replace, CAFE standards. Senator Gary K. Hart of the California Legislature is drafting a bill stipulating a $200 tax or rebate per mpg below or above 28 mpg. Better still, rebates for efficient cars should be based on the *difference* in efficiency between the new car and the old car which is scrapped -- thus getting the dirtiest and least efficient cars off the road soonest.[10]

- While Corporate Average Fuel Economy (CAFE) standards are not within this Committee's jurisdiction, CAFE standards should be tightened and improved significantly -- perhaps rising by 1 or 1.5 mpg per year into the foreseeable future. Safe prototype automobiles achieving up to 137 mpg have been demonstrated. (Volvo's ~71-mpg prototype, and reportedly Peugeot's 92-mpg prototype, can be manufactured at no additional cost over contemporary models due to

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[8] Such a tax would raise about $12 billion per penny of tax per year (before assessing elasticity of demand). A tax of 1-2 cents per kgC would increase typical gasoline prices by 2.6 to 5.3 cents per gallon and average electricity prices by 0.3 to 0.7 cents per kW-h. Other sources of CO_2 emissions should also be accounted for; cement manufacture (10 million metric tons per year) and possibly non-reseeded timbering, for example. Since the tax would be applied at the point of extraction or importation, allowances must be made for the possible, but doubtful, cost-effective opportunities to remove carbon prior to or after combustion; rebates on the tax could be instituted in such cases. In contrast, SO_2 would be taxed at the point of emission in order to allow for post-combustion removal to compete with low-sulfur coal and pre-combustion sulfur removal (unless current SO_2 regulations are replaced by an appropriate tax on SO_2 emissions).

[9] A portion of the receipts should also be spent on helping the poor cover the cost of nominally higher energy prices. I recommend a focus on cost-effective opportunities to reduce energy waste in public housing and private low-income homes and apartments, not simply helping to pay utility or fuel bills. Funds could also be invested in improving the energy efficiency of Federal, state, and local government buildings and facilities.

[10] In a similar vein, Massachusetts is considering a bill which proposes a sliding-scale sales tax on vehicles: a 10% tax would be levied on the most gasoline-consumptive autos, sliding to a zero tax on the most efficient models.

simplification of manufacturing and assembly. Volvo's model also exceeded EPA's crashworthiness tests.) The United States should encourage domestic production of highly energy-efficient automobiles and trucks. CAFE standards have been instrumental in improving the U.S. fleet average fuel economy from 13 mpg in 1973 to nearly 20 mpg today. Federal analysts found that it cost manufacturers at most $80 billion to achieve light-vehicle efficiency gains from 1975 to to 1987, but that the increased efficiency saved American consumers a cumulative $260 billion at the gas pump. It is worth noting that Europe and Japan achieved similar efficiency levels at far higher cost via high excise taxes on gasoline.

The Ways and Means Committee has an opportunity to set an example for the nation by adopting two fundamental guiding principles when considering taxation, investment, and the environment. First, focus on least-cost ways and means to provide or *save* energy (to update Ben Franklin's sage advice, "a kW-h saved equals a kW-h produced") and to reduce environmental impacts. Second, tax environmentally damaging emissions, and use the receipts to further reduce environmental impacts. The notion that reducing carbon dioxide and other harmful emissions will reduce our wealth is demonstrably false. We must now consider policies which improve the environment and simultaneously save resources and money. A scholar once remarked that people and nations "behave wisely once they have exhausted all other alternatives." It is incumbent upon Congress to help Americans take economics seriously. What on Earth are we waiting for?

THE WALL STREET JOURNAL TUESDAY, SEPTEMBER 17, 1985 page 28

Hiding the True Costs of Energy Sources

By H. Richard Heede
And Amory B. Lovins

How much does the federal government spend to subsidize energy to make it look cheaper than it really is? Ten billion dollars a year? Twenty billion?

That was the range of conventional wisdom before Rocky Mountain Institute started counting. We've conservatively compiled government and industry assessments of 17 kinds of tax breaks, program outlays (net of revenues) from 21 agencies' budgets and the reduced marginal cost of capital from eight agencies' loans and guarantees.

These major items just for fiscal year 1984 totaled more than $40 billion. We're still counting: Adding smaller items should bring the total to more than $50 billion a year. And it's so unevenly allocated that 1984 energy output per dollar of subsidy varied by a factor of nearly [illegible] between different energy technologies (see chart).

Everyone loses, except the recipient industries. Taxes are $46 billion a year higher. Skewed subsidies steer an even larger amount of private investment into capital-intensive but uneconomic projects, forcing up interest rates. The U.S. trades new multibillion-dollar export markets (losing in solar cells to Japan, in wind turbines to Denmark) for largely imaginary ones (synfuels, nuclear plants to China). Finally, uneconomic energy investments make everyone pay bloated energy bills for decades to come, making American industry less competitive abroad. We end up exporting fewer goods, importing more oil, and increasing the trade deficit.

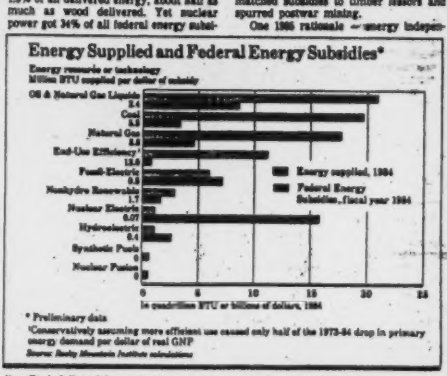
So what if energy is subsidized? the beneficiaries say: Government underwrites airports, water projects, hospitals, factories, condos—practically everything (except analyses of federal energy subsidies). But though regrettably true (and outside the scope of this study), that self-serving view ignores two key issues.

First, when true energy costs are concealed, people underinvest in energy productivity, wasting much of the $400 billion-plus in annual U.S. energy expenditures.

Second, unequal subsidies to competing energy options leverage and amplify the misallocation of private capital. Investments in conventional new energy supply (excluding energy-saving measures) totaled $125 billion in 1982 alone, or two-fifths of all U.S. investment in new plant and equipment.

For example, the most capital-intensive form of energy, electricity, delivered 13% of U.S. energy but got $30 billion (65%) of fiscal 1984 subsidies, decreasing its apparent average price by about a fifth. Electricity, counted at its heat value, got more than 11 times as much subsidy per unit of energy as directly used oil, gas and coal, and was at least [illegible] as heavily subsidized as energy-saving technologies. No wonder utilities are still investing about a dollar per household per day to build power plants they don't need and can't afford: Their subsidies almost equal their investments. That's not just a free lunch; it's a lunch the Treasury pays them to eat.

Nuclear power provided 13% of U.S. electricity sold in 1984, or 4.8% of the nation's primary energy consumption counting the heat produced by the reactors. The nuclear electricity sold, however, was only 1.9% of all delivered energy, about half as much as wood delivered. Yet nuclear power got 34% of all federal energy subsidies. Each dollar of those subsidies yielded only 1/80th as much energy delivered or saved as a dollar of subsidies to renewable sources (other than large hydro) and energy savings.



What are all those nuclear subsidies? Nine agencies' civilian line-item expenditures in fiscal 1984 provided $2.22 billion directly. Eight kinds of tax breaks totaled $10.2 billion; some of them are unknown in other industries, and all are unavailable for (say) insulating your roof. Finally, federal loans and guarantees saved the nuclear enterprise $3.32 billion in financing costs. We still haven't evaluated some subsidies to the nuclear fuel cycle or to several federal power marketing administrations, and we exclude imponderables such as the Price-Anderson Act's ceiling on liability for nuclear accidents. Still, direct nuclear subsidies last year totaled $15.3 billion—nearly as much as the total retail revenue from 1984 nuclear output.

In 1982 the U.S. invested twice as much in building nuclear plants, many of which won't even be finished, as it invested in the motor-vehicle, iron and steel industries combined. Surprised we have a Rust Belt? Investors were just continuing to feed at the federal nuclear trough.

Why is that trough kept so full? Partly by sheer political muscle—the electromuclear industry has several Washington lobbyists per member of Congress. Often, subsidies simply outlive their purpose: Depletion allowances were introduced in 1918 to spur energy output for World War I, rural electrification began in the 1930s, 1951 capital-gains treatment of coal royalties matched subsidies to timber lessors and spurred postwar mining.

One 1985 rationale—energy independence for national security—cannot withstand scrutiny. During 1979-83, savings provided more than a hundred times as much new energy as all net expansions of energy supply combined. Of those expansions, more new energy came from sun, wind, water and wood than from oil, gas, coal and uranium. These renewable sources now provide 10% of this nation's total primary energy, and the fastest-growing part, outpaced only by efficiency improvements. Just the increase in renewable energy's annual output during 1979-84 exceeded all Arab oil burned in America last year.

In fact, every dollar spent on slow and costly ways to save oil, like building power plants, retards oil displacement. That dollar can't finance fast, cheap ways to save oil, such as weatherizing buildings and making cars efficient—either of which could eliminate oil imports before a power plant ordered now could deliver any energy whatever, and at a tenth the cost.

Recent terrorist attacks in more than 50 countries confirm that reliance on fragile pipelines, transmission lines and power plants degrades energy security. The Rapid Deployment Force, too, probably couldn't seize and protect Mideast oil fields. Yet diverting one year's RDF budget into well-designed weatherization programs would eliminate Mideast oil imports. Experience over the past decade proves that displacing foreign oil and husbanding scarce resources at home can be done cheapest and quickest by energy efficiency and renewables—the chief causes of today's durable fuel and power gluts.

Subsidies to efficiency and renewable energy sources (such as solar tax credits) will abruptly expire at the end of this year without legislation such as that by Rep. Cecil Heftel (D., Hawaii) and Sen. Mark Hatfield (R., Ore.). However, other energy subsidies will continue (even, by and large, under the Treasury II proposal). This worsening imbalance will prevent the free market from smoothly replacing exhaustible with sustainable resources over the coming decades. Meanwhile, lopsided subsidies cheat the taxpayer, destroy fair competition, boost future oil imports and erode national security.

You'd think the free-market Reagan administration would love to find all this out. Well, hardly. No federal agency has studied energy subsidies since 1978; this spring, the Department of Energy canceled its contract for an update. The DOE insists today's subsidies are fair, but has no data: No federal agency, despite our entreaties, has studied who is getting how much subsidy, yet Congress is making major subsidy decisions.

Our analysis used the best data available, but it can doubtless be refined, and we solicit everyone's help. Nonetheless, our findings, though preliminary and approximate, suffice to indict present subsidies and proposed Treasury II tax revisions: They both make the playing field on which our nation's energy options are competing about as level as the Capitol dome.

Our nation's energy bills today are about $150 billion a year less than they would have been at 1973 levels of efficiency. Yet, if the U.S. were now as energy-efficient as Western Europe is, that annual bill would fall by an additional $200 billion—enough to balance the federal budget. By the year 2000, the cumulative net savings would be several trillion 1985 dollars—enough to pay off the entire national debt.

To capture such immense savings, America needs energy prices that tell the truth. If we can't deubsidize the *entire* energy sector—by far the best solution—let us at least be fair and subsidize all supply and savings options equally. Or is tax reform only a cover for selective corporate socialism?

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Appendix Two

MAKING MARKETS IN RESOURCE EFFICIENCY

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Contribution to a Festschrift for Ernst Ulrich von Weizsäcker on his Fiftieth Birthday
3 June for 25 June 1989

Most economists view the economic process as a closed loop of production and consumption -- an endless, circular, disembodied flow of exchange value. In fact, however, that loop is embedded in the physical reality of a negentropic flux from resource depletion to pollution. Yet today, both these thefts from the future are not priced, so they bear little or no penalty. Resources are conventionally valued at only their cost of extraction, not their long-run replacement cost; pollution, at zero.

As economics Professor Herman Daly notes[1], ignoring the throughput of matter-energy

> ...is as if biology tried to understand animals only in terms of their circulatory system, with no recognition of the fact that they also have digestive tracts. The metabolic flow is not circular. The digestive tract firmly ties the animal to its environment at both ends. Without digestive tracts animals would be self-contained perpetual motion machines. Likewise for an economy without an entropic throughput.

By ignoring throughput, most economic policymakers can "treat the world as a business in liquidation,"[2] counting depletion of capital as income -- notwithstanding the late J.R. Hicks's classic definition of income as "the maximum amount that a person or community [can] consume over some time period and still be as well off at the end of the period as at the beginning." Depleting or polluting natural capital stocks that yield flows of resources and services, whether priced or "free," undermines the ability to produce artificial capital -- including the artificial capital meant to substitute (supposedly reversibly) for losses of natural capital.

Most successful economies use market mechanisms to pursue this self-deception more efficiently -- and thereby add dangerous new layers of confusion. Optimal allocation of resources, as Daly points out, has nothing to do with optimal scale of operations, and "A boat that tries to carry too much weight will still sink even if that weight is optimally allocated." Nor does optimal allocation embody any feedback about when to stop: it does not reveal when growth becomes "anti-economic," the National Product becomes too gross, and basic needs become sacrificed to extravagant wants. Nor, finally, are markets meant to address such central needs as community, beauty, integrity, or justice. Markets are meant to be *efficient*, not *sufficient*; greedy, not fair. If they benefit whales, wilderness, God, or grandchildren, that is purely coincidental. Markets are very good at what they do, but their purpose is far from the whole purpose of a human being.

Nonetheless, a partial substitute for ethics in guiding economic activity can be to price depletion and pollution at considerably more than zero. This is a desirable, though perhaps not a necessary and certainly far from a sufficient, condition for morally acceptable economic behaviour: certainly it is much better than treating depletion and pollution as free goods, because if people don't pay what a thing really costs, they'll never know how much is enough. Pricing depletion and pollution encourages doing more with less, substituting resource efficiency for throughput, and thereby abating depletion and pollution simultaneously. This often saves money too, so one can do well by doing good.

Prices without markets

That much is now widely accepted. The "polluter pays principle" (if not also its essential counterpart, the "depleter disburses doctrine") is already reflected in some nations' law and custom, at least partly, and is gaining further force as rising concern over *Waldsterben* and global warming favours serious consideration of carbon and sulfur taxes.

Much less attention, however, has been given to helping people respond to those corrected price signals by using market mechanisms *to make a market in saved resources* (or in abated pollution). Merely pricing depletion or pollution does not bring together buyers with sellers; it does not take advantage of the power of market mechanisms fully exploited by many dispersed actors. Prices without markets are as if shares had quoted values but no bourse; or as if commodity prices could be negotiated only face-to-face between single dealers in small transactions in the bazaar but not acted upon by diverse parties elsewhere. This narrow vision of prices' potential pauperizes what could and should be a rich field for creative action. It imposes a penalty for, say, pollution *without providing a corresponding opportunity to escape that penalty by translating one person's potential loss into another's profit* -- thereby eliciting actors who can achieve important economies of scale in supplying "hassle-free" packaged responses to the price signal.

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[1]H.E. Daly (World Bank), "Steady-State versus Growth Economics: Issues for the Next Century," Hoover Institution Conference on Population, Resources and Environment, Stanford University, 1-3 February 1989.

[2]H.E. Daly, "Sustainable Development: Some Basic Principles," keynote address, Id. The present paper's opening section is much indebted to Daly's many seminal writings.

Making markets in saved resources and in avoided pollution holds much practical promise as a complement to, and in many cases a substitute for, regulatory intervention to mandate or prohibit particular behaviour. My colleagues and I have for some years been developing ways to apply this market approach to the efficient use of energy and water. This idea is now rapidly starting to catch on: many concepts which, a year ago, were only a gleam in the eye are now entering successful use by conservative, hard-headed, profit-making, and far from altruistic corporations.

The efficiency revolution

The underlying premise of this discussion is that efficient technology which wrings more work out of resources is generally cheaper, even in private internal cost, than making or mining more of them. (This is empirically true virtually everywhere for marginal electricity, fuels, and water, and probably applies to many other resources too.) Producers thus have an economic incentive to sell less of the resource and more efficiency in using it -- before someone else does. This changed mix of factor inputs to produce a desired service -- less of the costly intermediate good (the resource) and more of the cheap one (the resource productivity) -- reduces the total factor cost of providing the service. The producer then saves operating costs or capacity costs or both[3], reduces financial and political risks (including those arising from externalities), manages uncertainty so as to minimize regret, and can sell cheap efficiency more profitably than costly resources. Often the producer's business opportunity can be said to be arbitrage on the difference between the producer's and the customer's discount rate: a difference which, in the case of energy, is typically about tenfold.

The opportunity to profit from selling efficiency is real, pervasive, and arrestingly large. Our research has shown in detail a full practical potential, by equipping today's U.S. factories and buildings with the best equipment now on the market, to save about three-fourths of all electricity now used, at an average cost (~0.6¢/kW-h) far below the cost of just *operating* a coal or nuclear station, even if building it cost nothing.[4] The potential is probably rather similar in Western Europe, and even larger and cheaper in most socialist and developing countries. Similarly, full use of the best technologies already demonstrated, but not yet all on the market, could save nearly four-fifths of U.S. oil at an average cost (~$3/bbl) well below that of simply *finding* new domestic oil.[5]

Most of the best of these efficiency technologies are less than a year old; their cost-effectiveness has improved, in the case of electricity, by roughly sixfold in the past five years and by nearly thirtyfold in the past ten years. And thanks to a corresponding *cultural* revolution within the U.S. utility industry, many electric companies *are in fact* making more money at less risk -- and, importantly, are also having more fun and hence attracting more talented people -- by selling less electricity and more efficiency. These ideas are still quite new in Europe, but seem to be falling on fertile ground.

Negawatt markets

How can one harness the business incentive to save a resource more cheaply than it can be produced? The electric utility industry provides an illuminating example.

Since the mid-1970s, many U.S. providers of electricity or natural gas have realised that a saved watt (which we may call a "negawatt") is just like a generated watt, only cheaper, cleaner, safer, and faster to produce. Such utilities have therefore helped their customers to save electricity (or gas) through such specific programmes as information, technical design support, concessionary loans, leases, gifts, and rebates for buying efficient equipment. Such programmes are widely used, well understood, and highly successful: they can and do actually yield large, fast, cheap savings with high confidence.

Today, however, a complementary set of more market-oriented approaches is emerging from work at Rocky Mountain Institute and elsewhere. In essence, these techniques make saved electricity (or other saved resources) *into a commodity* subject to all the features of modern markets in wheat, copper, and sowbellies. Applied to saving electricity, for example, this can mean:

- **Local fungibility.** Saved electricity can be traded between *customers*: customer A, wanting cheap electricity, can privately arrange to invest on customer B's premises to save electricity there.

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[3] In U.S. regulatory practice, however, the normal process of price formation unfortunately rewards utilities for selling more electricity and penalizes them for selling less. This perverse incentive has been successfully corrected by a simple balancing-account mechanism in California. In July 1988, the Conservation Committee of the National Association of Regulatory Utility Commissioners unanimously endorsed two new regulatory principles now starting to enter state practice: that by this or other means, utilities' profits should be decoupled from their sales, so they become indifferent to whether they sell more or less electricity; and that any utility which reduces customers' energy-service bills should be allowed to keep part of that saving as extra profit.

[4] This potential is documented in encyclopaedic detail by Rocky Mountain Institute's Competitek update service, currently provided to approximately 80 utilities and other organisations in 18 countries.

[5] A.B. Lovins, "DRILL RIGS AND BATTLESHIPS ARE THE ANSWER! (But What Was the Question?)," in R. Reed & F. Fesharaki, eds., The Petroleum Market in the 1990s, Westview (Boulder, Colorado), 1989, or Rocky Mountain Institute Publication #S88-6.

The utility, acting as a negawatt broker, can then resell to A the amount of electricity just saved at B's facility, but at a discount, so that the utility's saved operating costs (because the saving generally costs less than short-run marginal generating cost) is split between A and other customers.

- **National fungibility.** Saved electricity can be traded between *utilities*: utility A can pay utility B to save electricity in B's territory and then sell it back to A at a mutually advantageous price. The first such contracts were recently signed.[6]

- **International fungibility.** Saved electricity can even be traded between *countries*. For example, Hydro-Québec's proposal to build a very costly hydroelectric dam and sell to Vermont 450 megawatts of its output, at a price which over time works out to about 9¢/kW-h, is unattractively expensive. But Vermont's suggested counteroffer is to go to Montréal, fix up buildings there to save 450 MW, and then b uy it back for (say) 3¢/kW-h. The total cost to Vermont -- perhaps 1¢/ kW-h to save the electricity, then 3¢/kW-h to buy it back -- will be far below Hydro-Québec's 9¢/kW-h asking price. But Hydro-Québec would make more money by accepting the counteroffer, because the 3¢/kW-h power is from an old dam amortized decades ago, so that price is almost pure profit, and comes without the financial and environmental risks of the new dam. If 3¢/kW-h isn't the right price, there is plenty of room to negotiate.

  This is pure arbitrage on the difference between the cost of making and the cost of saving electricity. The scope for such profitable arbitrage is very large, especially within the logic of the post-1992 internal market in Europe. Competition between megawatts and negawatts will soon teach utilities and nations that electricity is almost always worth more saved and resold than wasted at home.

- **Derivative instruments.** Markets in saved electricity can be not only spot markets but also futures and options markets -- an ideal way to hedge planning risks. A "negawatt future" would be an underwritten promise to deliver a certain amount of saved electricity at a certain time, place, and price. That contract would have a market value. This concept is now under serious discussion.

- **Peak-load covenants and secondary markets.** Another marketable instrument could be a binding covenant that a given factory or facility will never use electricity at more than a certain peak rate, so the utility needn't go on planning as if it were going to, and can avoid costly capacity. This "capped demand covenant" would have a value in a secondary market. It is like the U.S. Environmental Protection Agency's present practice of regulating air pollution under the "bubble concept": someone wanting to open a polluting factory in a place with dirty air must first abate that much pollution somewhere else in the same airshed. In practice this is done, not by physically finding and cleaning up another plant, but by buying from a broker, at market value, a previously earned certificate of decreased air pollution. Buying stabilized or reduced electrical demand should be no different.

  A special case, already widely practiced, is the "curtail-to-threshold tariff": a customer expresses willingness, in rare power emergencies, to receive less electricity than usual, down to a certain "threshold" mutually chosen in advance. The utility then pays the customer monthly for each peak kilowatt by which such curtailment is available, whether it is actually exercised or not.

- **Auctions.** Saved electricity can be bought by competitive bid to minimize its cost. A utility (or an independent broker) wanting a certain number of megawatts can simply solicit bids for that much electricity, or less, to be made *or saved or displaced* by anyone, by any means, at a series of increasing prices, until the target is reached; or the auctioneer can simply ask for bids and choose the lowest ones. Such "all-source bidding" is now required in eight of the United States and is spreading rapidly. Efficiency bids generally undercut power plants, beating even industrial cogeneration and otherwise competitive renewable energy sources.

  As a special case, one U.S. utility offered industrial modernisation grants -- cash given to help adopt more efficient processes or equipment which would save electricity more cheaply than the utility could make it. The grants simply went to those firms which bid to save the most electricity per dollar of grant.

- **Cross-marketing.** Ele.tricity is usually supplied by monopolists operating in a specifically franchised territory. But there is no monopoly on electric *efficiency*; it may be freely sold anywhere.[7] Thus about a dozen investor-owned utilities already sell efficiency, for fun and

[6]Electricity saved at the point of use requires no transmission, but rather frees up transmission capacity to "wheel" the cheapest power around the grid; so negawatts, rather than paying a wheeling fee, deserve a wheeling credit.

[7]"Selling efficiency" means selling any required mix of advice, design services, project management, financing (usually the most important part), equipment, installation, commissioning, operation, maintenance, and monitoring. It is essentially an informational/financial product.

profit, in the territory of *other* utilities less alert to their opportunities. One U.S. utility sells electricity in a single state but efficiency in six states. (Before long, I daresay, German utilities will be investing to save electricity in France, Greece, and the Soviet Union as routinely as in the Federal Republic itself.) It is even possible for a natural-gas utility to make a large profit selling *electric* efficiency -- and thereby change the behaviour of buildings in ways which open up new gas markets.

- **Sliding-scale hookup fees.** A useful adjunct to these market-making methods is to internalize some of the social costs of inefficient buildings by charging, before connecting any substantial new building to the grid, a fee which is positive *or negative* depending on the efficiency of the building. This has major advantages for all parties -- builders, financiers, buyer/occupants, utilities, and other customers. Such a scheme is halfway through being passed into law in one state, and half of it is in use (with the other half proposed shortly) in four others.

  One state is seeking to apply a similar concept to new automobiles by adjusting its normal 5% sales tax upward or downward, over a range of 0-10%, depending on efficiency. It would be even better to have a *negative* tax for the most efficient cars -- the more efficient, the bigger the rebate -- for buyers who scrap their old, inefficient cars so nobody will ever drive them again. (Bring in a death certificate -- or two bumpers and a fender? -- and get your rebate. Or scrap your old car, *don't* replace it, and collect a bounty.)

Such methods can make negawatt markets in which everyone can play, promoting bounty-hunters who go looking for opportunities to invest in correcting inefficiency wherever they find it. That is surely a faster -- and, thanks to the resulting competition, a cheaper -- way to wring out inefficiencies than relying on a few large institutions alone.

Other resources

Similar methods are already being applied to saving water in dry parts of the United States and in places facing costly expansions of wastewater-treatment capacity to abate pollution. Sliding-scale hookup fees, giveaways, mass retrofits, rebates, arbitrage, interutility trades of saved water -- all are rapidly entering standard practice. In fact, one water-short town has invented a new method: any builder wanting to construct a new house must first install water-saving equipment (or fix leaky water mains) to save that much water elsewhere. The result: builders equipped a third of all the houses in town with efficient fixtures in the first two years.

Could not similar methods apply also to other scarce resources? Could not the social value of not burning oil, for example, be reflected in prices signalled by spot, futures, and options markets in *saved* oil, so that arbitrageurs can exploit the spread between barrels and negabarrels? Could not "negatons" of saved or recycled metals be traded alongside tons of virgin metals? Might not one firm or country use brokers to find others with whom resource efficiency improvements and pollution abatements could be profitably traded? Why not acquire resources by auctions which establish the functional equivalence of new with saved resources, of pollution with abatement? How much is it worth paying people to stay *off* the roads so we needn't build and mend them so much? As with subatomic particles, for every resource there is an equal and opposite "antiresource," for every activity an abatement, each arguably meriting a value and a market.

Making markets in resource efficiency and environmental protection has even wider implications. Consider, for example, the analogy between energy and security. People don't want kilowatt-hours; they want energy services such as comfort, light, mobility, and torque. But if the only way they know to get the services is by buying electricity, then a choice to use less electricity and more efficiency cannot be expressed in the market; utilities will therefore have an effective monopoly in providing the final services; and price elasticity of demand for electricity will appear to be very small. The solution is to articulate, make available, and make markets in the efficient use of electricity, so that electricity must openly compete with electrical productivity.

Analogously, people don't want weapons; they want to be safe and feel safe. But if the only way they know to get security is through weapons, then the weapons vendors will have an effective monopoly in providing security services, and price elasticity of demand for weapons will appear to be very small (reinforced by the monopoly, monopsony, and often corrupt political process through which the weapons are bought). That is why Rocky Mountain Institute is trying to articulate and bring to market the specific, practical elements of an alternative concept of security -- so that other ways to achieve freedom of fear from privation or attack will become more available as alternative intermediate goods with which weapons must compete in the political marketplace.

Putting a proper price on depletion and pollution cannot replace a proper regard for our moral obligations to beings in other places, forms, and times. But prices imaginatively *combined with flexible, accessible markets* can at least apply to corrective mechanisms the same vigour and ingenuity -- the same genius of the market -- the same diversity and adaptability -- that have got us into this mess. Markets that *apply* the new price signals, and focus them into action, will at least help make the struggle between destroying the future and creating it a more nearly equal contest whose issue is less in doubt.

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STATEMENT OF
INTERNATIONAL HARDWOOD PRODUCTS ASSOCIATION
PREPARED BY
O. KEISTER EVANS

SUBMITTED TO COMMITTEE ON WAYS & MEANS
WITH REFERENCE TO
LONG-TERM STRATEGY HEARING ON THE ENVIRONMENT
REFERENCE EXCISE TAXES ON TROPICAL TIMBER IMPORTS

Introduction

The International Hardwood Products Association (IHPA) is the international trade association representing the U.S. imported hardwood industry and many of the companies in producing countries which supply tropical forest products to the Association's importing members. IHPA represents some 85% of the total product value of forest products imported into the U.S. annually. In addition to importing companies, membership includes offshore suppliers, trading companies and country export associations. Associate members in the U.S. include steamship companies, port authorities, customs brokers, banks and other industries allied to the international tropical timber trade. The membership roster currently includes 69 importing member companies, 46 offshore member companies and 38 associate members.

Statement

The industry represented by IHPA supports preservation of the tropical forest regions, both from an environmental and a commercial point of view. The imported hardwood industry does not support the imposition of an excise tax on its products as an effective measure to offset concerns over the environment. It should first be noted that commercial forestry practices represent a very small percentage of activities that affect the tropical forests. Further, when good forest management practices are effected, commercial forestry in its own right is a protector of these forest regions. It is understood that forest lands that provide economic incentives will encourage preservation. Any additional taxes in the United States will serve only to shift the markets to other consuming nations, and do nothing to protect the tropical forest regions.

In order to demonstrate the value of commercial forestry and sustained management practices, the Smithsonian Institution at the request of the International Hardwood Products Association recently sponsored a Tropical Forestry Workshop on Commercial Forestry, Sustained Yield Management and Tropical Forests. This workshop, held at the Smithsonian Institution, involved the most renowned scientists and representatives from diverse regions and disciplines concerned with the tropical forests. Chaired by Dr. Thomas E. Lovejoy, Assistant Secretary for External Affairs, the workshop reaffirmed the conclusion that good forestry practices will enhance preservation of the forests. Any measures to discourage trade (such as blanket embargoes or isolated taxes) will be counterproductive and leave the forests vulnerable to other uses that do not assure regeneration.

The "white paper", Tropical Forestry Workshop Consensus Statement On Commercial Forestry, Sustained Yield Management and Tropical Forests, outlines a number of conclusions from the workshop and sets forth recommendations that are intended to influence the tropical forestry industry worldwide to encourage and promote practices that will ensure the perpetual regeneration of the forests - of great importance to a continued healthy world environment. A copy of the complete text of the Consensus Statement, along with a brief summary, is attached to this statement.

We thank you for this opportunity to express the viewpoint of the imported hardwood products industry, and would be happy to provide additional information upon request.

O. Keister Evans
International Hardwood Products Association March 19, 1990

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Tropical Forestry Workshop - Summary

In October 1989, a number of the world's foremost authorities on tropical forestry management practices and the environment gathered at the Smithsonian Institution in Washington, D.C. to discuss the causes of tropical deforestation and action that can be taken to preserve these natural resources. The group, called together by the Smithsonian Institution and the International Hardwood Products Association, was carefully balanced to include disciplines with interests related to and within tropical forestry and representatives from major tropical regions of the world.

- Tropical forests will be preserved only if they are accorded economic value.

- Blanket bans and embargoes (as contrasted to selective ones), on tropical hardwood will tend to depress the value of these hardwoods and the forests that contain them. Such constraints generally diminish the economic incentives to conserve and manage these forests in the face of alternative land uses which lead to their destruction.

- In areas where prices received for timber do not fully cover the cost of forest management, there is lack of incentives and commitment to these practices.

- Funds obtained from products of the tropical forests must be re-channeled into managing and regenerating those forests.

- The international tropical timber industry should encourage the continued establishment of conservation areas solely dedicated to forest preservation.

The working group concluded that the key component in preserving and maintaining the tropical forests is to ensure these resources maintain their economic value. This objective can be met only by a commitment of human and financial resources and the continued cooperation between governments and international organizations.

TROPICAL FORESTRY WORKSHOP

Consensus Statement On

COMMERCIAL FORESTRY SUSTAINED YIELD MANAGEMENT AND TROPICAL FORESTS

Co-sponsored by
The Smithsonian Institution
and
International Hardwood Products Association

SMITHSONIAN INSTITUTION
Washington, D.C. 20560
U.S.A.

January 8, 1990

Tropical Forestry Workshop
Thomas E. Lovejoy, Chairman

In October 1989, a number of the world's foremost authorities on tropical forestry management practices and the environment gathered at the Smithsonian Institution in Washington, D.C. to discuss the causes of tropical deforestation and action that can be taken to preserve these natural resources. The group, called together by the Smithsonian Institution and the International Hardwood Products Association, was carefully balanced to include disciplines with interests related to and within tropical forestry and representatives from major tropical regions of the world.

The conclusions of the group include the following:

- *Tropical forests will be preserved only if they are accorded economic value.*
- *Blanket bans and embargoes (as contrasted to selective ones), on tropical hardwood will tend to depress the value of these hardwoods and the forests that contain them. Such constraints generally diminish the economic incentives to conserve and manage these forests in the face of alternative land uses which lead to their destruction.*
- *In areas where prices received for timber do not fully cover the cost of forest management, there is lack of incentives and commitment to these practices.*
- *Funds obtained from products of the tropical forests must be rechanneled into managing and regenerating those forests.*
- *The international tropical timber industry should encourage the continued establishment of conservation areas solely dedicated to forest preservation.*

The working group concluded that the key component in preserving and maintaining the tropical forests is to ensure these resources maintain their economic value. This objective can be met only by a commitment of human and financial resources and the continued cooperation between governments and international organizations.

On reflection, it is apparent that there is a real need to continue the dialogue represented by this Workshop on a periodic, perhaps annual, basis. Targets and timetables for implementing these recommendations, and for more effectively limiting purchases to suppliers practicing sustainable management, should be developed in conjunction with producing countries and periodically reviewed. Such meetings can consider the need for a policy against clearing tropical forest for plantations, and discuss other topics such as indigenous vs. exotic species in plantation forestry.

Sincerely yours,

Thomas E. Lovejoy

Thomas E. Lovejoy
Assistant Secretary for External Affairs

Enclosure: Tropical Forestry Workshop Consensus Statement on Commercial Forestry, Sustained Yield Management and Tropical Forests

TROPICAL FORESTRY WORKSHOP
Consensus Statement *

COMMERCIAL FORESTRY, SUSTAINED YIELD MANAGEMENT AND TROPICAL FORESTS

Background: Description of the International Hardwood Products Industry. The U.S. international hardwood products industry is composed of companies which import tropical hardwood products from Asia, South and Central America, and Africa. Most of these companies are members of the International Hardwood Products Association (IHPA). Members of the Association purchase directly from the mills in the various regions. The industry is very concerned about long-term sustained use of the tropical forests, which provide economic benefits to supplier nations and consumer nations alike, and provide other major contributions to national, regional and global environments.

The main import products are plywood, lumber, veneer and specialty products made from lumber. Tropical hardwood products are marketed for properties and qualities not always found in temperate species. Total imports of tropical hardwoods to the U.S. approximate $1 billion per year. Although imported hardwood products only account for a small percentage of total domestic hardwood consumption, they are nonetheless important to the U.S. market, and provide needed revenues to the supplying countries.

U.S. buyers are the marketing arm for industrial tropical forests and are therefore very interested in the long-term productivity and availability of products from the supplying regions. Most of the buyers are members of the IHPA, which is recommending principles and activities to promote conservation, utilization and regeneration of tropical forests so that they can be used and enjoyed in perpetuity.

Overview of Tropical Forest Depletion vs. Deforestation

Deforestation is total conversion out of forest conditions to other land use (no forest remains), and must be distinguished from (a) managed depletion and (b) unmanaged depletion, both of which are caused by logging or local usage (removing some trees, but allowing the forest to remain).

The fundamental causes of tropical deforestation are related to misguided government policies, poverty, overpopulation, insecure land tenure, inequitable distribution of land and wealth, the need to put land to more intensive use, and other such reasons. These factors give rise to the more proximate causes, i.e., agriculture, mining, hydroelectric dams, encroachment and logging.

Timber is normally harvested from: forest lands under conversion from forest to other land uses; production forests, designated to be managed to provide continuous timber supply; tree plantations generally dedicated to continuing production; and unmanaged forests.

Commercial logging for export is not the primary cause of deforestation on a global basis, although commercial logging can be a very important problem on a national or local basis. The 1982 FAO (Food and Agriculture Organization of the United Nations) report on tropical deforestation found that shifting agriculture was the single greatest cause of forest loss. However, in some regions, normally frontier areas with low population density and limited prior forest disturbance, the economic gain from logging can be the catalyst for road penetration and land clearing.

When timber is harvested, some major causes of damage to the forest commonly accompany logging. Damage may be caused during the logging process to seedlings and residual trees which should form the regrowth forest. Erosion can result from poor road alignment, construction and clearing, or when logging occurs on steeply sloped land. The forest's susceptibility to wildfire is also enhanced by dry matter left behind after logging operations, as well as by the drying effect of canopy opening. Finally, roads built by loggers are often used by farmers (who move in and clear the residual forest), or by hunters (who enter along the roads), or by timber poachers (who steal from the residual forest).

Sustainable Forestry

Forestry, in theory, has to be sustainable; that is, harvesting should not diminish the benefits to future generations. Sustainable forestry requires the protection of soil, water, wildlife and timber resources in perpetuity.

Current exploitation of tropical forests, ranging from highly selective removal of a few choice trees (without taking the necessary steps to ensure regeneration of the stand), to deforestation, burning, cultivation, and pasturing, is not forestry, in that it degrades remaining forests and the soil as a source of future benefits and products.

Sustainability must be measured in terms of quality and diversity as well as quantity, and should be measured within a reasonable time frame. The mix of benefits and products may vary from place to place, but in the aggregate must be as useful to future generations as the primary forest.

Primary Forests. Primary forests are those essentially unmodified by recent human intervention. They contain a wide range of species and products. Primary forests can best be sustained by the preservation in perpetuity of tracts of such forests which are representative of diverse environments. Once sufficient areas of protected primary forest are secured, other primary forest areas may be subjected to sustainable utilization by practices that preserve the structure and function of the ecosystem. Such management must be carried out with caution and continuously monitored to ensure sustainability.

Secondary Forests. Secondary forests are those left after exploitation of marketable timber, and the regrowth after deforestation and agricultural abandonment. The immediate goal in managing these forests should be to accelerate the rate of growth to reach maximum sustainable production. All resource values (e.g., water, soil, wildlife) must be considered.

Tree species of secondary forests, previously seldom used, are rapidly becoming acceptable in local markets. Therefore, the management of these forests should be increased, but should be done in a way that preserves a broad spectrum of species. Research is needed to determine the values of secondary forests that are being developed for their timber productivity.

Management and economic valuations must also consider non-timber benefits such as conservation of water and wildlife habitat.

Plantations. An increased proportion of tropical lands, now deforested or inadequately stocked, must be planted with useful trees to meet future needs for industrial forest products, to reduce the pressure on primary forests and to generate other benefits derived from tropical forests. To ensure that plantations do not degrade the soil and are sustainable, they will require continuous monitoring and flexible management. The economic feasibility and sustainability of mixed species plantations vis-a-vis single species plantations ought to be explored.

Basic Principles of Tropical Forest Management

Forests are dynamic. If not utilized, trees are continually dying and being replaced. Sustainable utilization systems can be devised and are viable so long as they mimic natural forest dynamics and work within the nutrient limitations of the ecosystem. The problems arise not so much in devising such management systems, but in making them work under the prevailing socio-economic conditions.

Forests provide a wide variety of goods and services. Non-timber products, such as fruits, nuts, rubber, and rattan, often harvested by forest-dwelling people, provide economic benefits that can be more valuable than timber removal. Economic analysis of the value of timber harvesting should take into account the potential threat to other major opportunities if log extraction damages production of these products.

Timber should realize its true value. Where timber prices do not fully cover the replacement and environmental costs, there is no incentive to restore the forest so that it can be sustained at its original level. Governments commonly collect far too little forest revenue to reinvest in replacement efforts that incorporate all of the affected environmental factors. Where the logger has no incentive to utilize low grade and waste products, maximum utilization will not occur, and sustainability could be endangered by high-grading and forest fires (fueled by dry matter left behind after logging operations).

Fiscal and financial incentives for conservation and regeneration must be provided. In the same way that logging should bear its environmental costs, conservation, regeneration and reforestation should enjoy profits from the environmental benefits they convey to the society at large.

Re-entering a forest to cut (re-cutting) too frequently is a common problem, which inevitably degrades the forest. Re-cutting may occur in order to satisfy the annual volume a logger is obliged to cut, or to take advantage of remaining stands of commercial value if the logger's concession is too short to ensure him the access to the next harvest. Re-cutting often takes place before there has been adequate re-growth. Frequent re-cutting compounds any damage from the first cut, thereby slowing down regeneration.

Timber concession agreements are currently much too short in duration. Most are not more than 20 to 30 years. As a result, the concessionaire does not have practical reason to invest in the long-term future of the concession. Concession contracts should extend over at least two cutting cycles, and should be subject to periodic review for compliance with good management practices.

How Members of the International Hardwood Products Association Can Encourage Sustainable Forestry

The international tropical timber industry shares the growing concern that tropical forests should be managed for a wide array of benefits. Towards this end, the industry should encourage the further establishment of more conservation units with strict preservation objectives, as well as reserves to protect the rights and cultures of native populations. Forest management for timber production should be confined to production forests.

The tropical forest products industry of consuming nations can collectively encourage sustainable forestry by taking the following steps:

- Promoting the development of internationally acceptable and verifiable operational guidelines and criteria for defining the sustainability of management in the tropical timber producing countries.

- Improving the effectiveness of the policy to buy timber only originating from legal sources by working for better information about sources.

- Recognizing the usually counter-productive consequences of constraints of trade (blanket bans, embargoes) in tropical hardwoods, and further recognizing that the most effective means to prevent such constraints is by supplying sustainably managed timber. Such constraints would tend to depress the value of the hardwoods and the forests that contain them, thus diminishing the economic incentives to conserve, manage and regenerate these forests in the face of alternative land uses which lead to their destruction. Selective constraints could be beneficial in some areas where logging affects rare species, national parks, indigenous lands, or open frontier regions to intensive over-exploitation. However, in other areas, reduced timber prices would have the unintended result of providing incentives to clear forests for other uses.

- Urging sale of forest products on a free market basis that requires that prices fully reflect replacement costs and environmental costs of the resources utilized. Urge that mechanisms be in place to ensure that proceeds are reinvested in forest regeneration, research and management.

- Encouraging incorporation of all forest products, timber and non-timber, in cost-benefit analyses. Attempts should be made to make log extraction compatible with these other uses.

- Encouraging suppliers and governments to involve local populations more actively in forest management to ensure better distribution of the forests' benefits, and more efficient and cost-effective management of remote and fragile resources.

- Urging suppliers and governments to establish long-term and secure tenure over forestry resources. Secure tenure and management responsibility for production forests must be vested in the same entity. The entity could be the central, state or local government with annual auctioning of logging rights to accredited logging companies with satisfactory past performance. Alternatively, the management entities could be accredited private companies with long-term concessions covering at least two cutting cycles. Finally, the entities could be local communities having customary rights and sufficiently cohesive organization to manage the resource on a sustainable basis. This is best achieved, whatever the form of tenure chosen, if it is long-term, secure and exclusive with corresponding rights and responsibilities to provide the right incentives for sustainable management.

- Encouraging suppliers and governments to minimize timber losses through more efficient logging operations, improved recovery techniques, and wood preservation.

- Assisting producer nations to develop new markets for lesser known species (through means such as sampling and testing) and promoting use of those species.

- Promoting improved utilization through the use of better grading and measurement systems.

- Encouraging suppliers to identify and promote examples of good forest practices.

- Encouraging high value end uses for tropical hardwoods.

- Supporting and promoting efforts in producer nations to process their raw materials as far as is economically beneficial, prior to export.

- Supporting fair trade in timber products.

The problems concerned with forestry can be most effectively tackled by concerted action of members of the International Hardwood Products Association in conjunction with comparable associations in other consuming countries and export associations in producing countries. IHPA should also promote the goals and objectives set forth by this Workshop through stronger involvement in the International Tropical Timber Organization (ITTO), and other such international organizations and governments that have responsibilities and interests in tropical forestry.

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** The viewpoints expressed in this paper represent a consensus of opinions of the individual participants and do not necessarily represent opinions of the organizations they represent.*

TROPICAL FORESTRY WORKSHOP ON COMMERCIAL FORESTRY, SUSTAINED YIELD MANAGEMENT AND TROPICAL FORESTS

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March 13, 1990

OUR FILE

Robert Leonard, Esq.,
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Re: **Environmental Taxes**

Dear Mr. Leonard:

I am writing with regard to the consideration now being given to ways of improving the environment through the use of the tax system. As a tax lawyer for 15 years, and a committed environmentalist for an even longer period of time, I wanted to convey my strongly-held views on this subject.

In my opinion, any environmental taxes should be shaped in accordance with the following general principles:

1. No Tax Subsidies. Generally speaking, there is no more (or less) merit to providing a tax subsidy for environmental purposes than for any other worthwhile purpose. Redwoods are important, but so is health, education, etc. The Code is simply the wrong place for subsidies. It adds complexity to an already overly-complicated system, and confers benefits that are far too speculative. If there are environmental goals to support, let's pay for it and not hide the ball.

2. No Penalty Taxes. There is a compelling tax policy in favor of Code provisions which define "net" income and tax it accordingly. To start distorting the measure of net income in order to penalize certain economic activities, e.g., by disallowing deductions for certain timber activities, is an extremely inefficient means of achieving a policy objective. If we do not want these economic activities undertaken, there are better ways of discouraging them than increasing the cost

of such activities by distorting the measure of income. E.g., let's stop subsidizing them in the forestry budget.

3. No Income Tax Changes. What it comes down to, then, is that income taxes are generally the wrong place to be dealing with environmental issues. The fact is, almost everything deserves a special tax break, and therefore almost nothing should have one. The Code should be used to measure net income, and perhaps to achieve broader economic objectives, but it should not be used for social policy purposes. This may sound a bit idealistic, but that is the basic principle of the 1986 law changes, and anything which erodes that broadened base is to be avoided at all costs.

4. Excise Taxes. If income taxes are the wrong place to tinker, excise taxes are an excellent candidate. There are some socially dysfunctional behaviors--cigarette smoking, liquor consumption, etc.--that are perfectly suited to being addressed through excise taxes. Those activities which constitute an additional burden on the limited resources of society should be charged accordingly through an excise tax.

The paradigmatic example in the environmental area is the gas guzzler tax. Here, there is absolutely no reason why an enormous tax should not be imposed on people driving little cars with big engines. (Big cars with big engines are not enough--they may be used for car pools. Thus also the problem with a gasoline tax, although I favor one despite its regressivity.) In the situation where it is obvious that someone is using more than his or her "fair share" of the world's resources, they should pay the price for that wasteful use. The gas guzzler tax is a clear winner, and in my view there should be a gigantic charge for driving a gigantic car.

Further, I cannot help but feel that the gas guzzler tax should be higher in Los Angeles than it is in Montana. It seems to me that the deleterious effect on the air quality here is another reason for imposition of the tax. But in Montana, presumably, this is not a problem. Therefore, there should be a regional tax in Los Angeles that makes driving a Ferrari almost prohibitively expensive, but the same should not be true in Montana.

I do not know how to impose a tax that would achieve this disparity and still be constitutional. One possible idea: ban the sale of such cars altogether, then sell permits to allow people to buy them. For $1 million (plus the cost of the car) you can drive a Ferrari in Los Angeles.

Thank you for your attention and consideration of these views.

Sincerely yours,

Jonathan D. Kaufelt

STATEMENT FOR THE RECORD
OF
KENNECOTT CORPORATION
REGARDING
HEARINGS ON
LONG-TERM STRATEGY ON THE ENVIRONMENT
BEFORE THE
COMMITTEE ON WAYS AND MEANS
U.S. HOUSE OF REPRESENTATIVES
MARCH 6-7 and 14, 1990

Mr. Chairman, and Members of the Committee, Kennecott Corporation is pleased to have this opportunity to submit a statement for the record on long-term environmental strategies for programs and issues within the jurisdiction of the Committee. We consider it important for the Committee to explore whether the Federal tax system should be used to further the Nation's environmental programs.

Kennecott Corporation is one of the Nation's largest and oldest precious (gold and silver) and base (copper, lead and zinc) metal producers with operations in Alaska, Nevada, South Carolina, Utah and Wisconsin. We conduct exploration activities chiefly in North America and Papua New Guinea.

Environmental Costs vs. International Competitiveness

The United States, in establishing stringent environmental requirements or tax policies, cannot ignore the implications of such actions on the international competitiveness of U.S. industry. This is particularly true for the domestic mining industry, which operates in an international market.

Metal prices are established on the London Metal Exchange (and the Commodity Exchange in New York City) based on the international balance between supply and demand. As a consequence, environmental costs or taxes that are imposed only on U.S. metal producers raise the costs of domestic production, making U.S. industry less competitive with foreign producers. Cost increases arising from U.S. environmental regulations cannot be simply passed along to consumers. Rather, increased environmental costs erode the competitiveness and long-term viability of the domestic industry, threatening the jobs of U.S. workers. During periods of high supply and low price, only the lower-cost producers survive. International competitiveness is a real concern for the mining industry where profit is often based on a few cents per pound for a given metal.

The environmental laws and implementing regulations in the United States are overall the most stringent in the world. These requirements have continued to become more stringent throughout the decades of the 1970s and 1980s, and one would expect this tightening trend to continue. For example, the pending Congressional Clean Air and Resource Conservation and Recovery Act bills are much more stringent than current law.

Kennecott is a major copper producer, and the impact of environmental controls on that industry is a case study in itself. Under the current Clean Air Act, domestic copper smelters have reduced SO_2 emissions more than any other industry in the United States, to an average of well over 90% control. These controls have lowered the percentage of national SO_2 emissions attributable to copper smelters from over 11% before enactment of the 1970 Clean Air Act to less than 1% today. This has been accomplished at great cost to the industry with capital expenditures for air pollution control alone of over $3 billion. Kennecott itself has spent over $500 million. This is among the highest percentage of capital expended of any domestic industry for environmental controls. Since domestic copper smelters are already well controlled, further emission reductions are extremely costly and not cost-effective.

Copper is a commodity traded in international markets. Additional costs of environmental control cannot be passed on to consumers in the price of the product, because prices are established in international markets rather than set by U.S. producers. Major foreign competitors to the domestic copper industry include Australia, Canada, Chile, China, Indonesia, Mexico, Papua New Guinea, Peru, Phillipines, Poland, South Africa, the U.S.S.R., Zaire and Zambia. In aggregate, the smelters located in these countries have significantly less sulfur capture than their counterparts located in the United States. This grants them a significant competitive advantage. Air quality regulations at domestic copper smelters under the current Clean Air Act cost nearly 15 cents per pound of copper produced, for a metal that trades on international markets at around $1.00/lb. Environmental costs, in combination with other relevant international market conditions, have forced seven out of fourteen Western domestic copper smelters to close since 1970. These closures have resulted in a loss of many jobs for American workers, as well as decreased American competitiveness in the world market.

Therefore, we view it as critically important that the Committee, in looking at long-term environmental strategies and taxes, be fully cognizant of the impacts on international competitiveness of U.S. environmental requirements and tax policy.

Emission Fees and Waste-End Taxes are Punitive

In recent years, there has been much public debate concerning the adoption of emission fees to help fund environmental programs (such as acid rain) or to provide an economic incentive for sources to further reduce emissions (e.g. sources located in nonattainment areas). Other similar proposals relate to waste-end taxes to help reduce waste or encourage recycling.

Kennecott strongly objects to adoption as U.S. policy of the imposition of emission fees or waste-end taxes on the ground that such a policy would disproportionately burden natural resource industries that extract materials from the earth. In these industries large volumes of waste are inherently involved. For example, to mine copper ore at our operations in Utah, Kennecott must first remove about a ton of overburden to get one ton of ore. The copper content in each ton of ore is around 0.7% copper. Consequently, 99.3% of the material moved and later disposed is waste. Kennecott alone moves at our Utah operation over 200,000 tons of material per day. Over 400 tons of material are handled to produce only one ton of refined copper. Other metals and minerals mining and processing operations would have similar high waste volumes. Therefore, unlike some other industries, even modest waste-end taxes translate to large impacts on a unit product basis. For a further discussion of mining waste volumes and management practices, we would refer the Committee to EPA's December 1985 Report to Congress on "Wastes from the Extraction and Beneficiation of Metallic Ores, Phosphate Rock, Asbestos, and Overburden from Uranium Mining and Oil Shale."

Waste-end taxes are also anti-competitive, in that they fall on domestic production only. This would create an unfair competitive advantage for imports relative to their domestic equivalents. In short, waste-end taxes are inequitable, would cause severe economic dislocation, and would damage the international competitiveness of the domestic mining industry.

In relation to emission fees, Kennecott has a problem similar to other process emitters. Copper ore is chemically composed of copper, sulfur, and iron in approximately equal amounts. Consequently, during the thermal breakdown of the ore in a smelter, large volumes of sulfur are emitted as sulfur dioxide gas (SO_2). This gas is a pollutant under the Clean Air Act and is captured in plants that make sulfuric acid (H_2SO_4).

As noted, over 90% of the SO_2 is captured so less than 10% of the SO_2 is emitted to the atmosphere. No high-sulfur fuels are combusted during the smelting process, as natural gas is utilized. Over 95% of copper smelter SO_2 emissions are attributable to the ore itself, rather than fuels.

Therefore, for Kennecott (and other domestic copper smelters) to produce less SO_2, it (they) must install more control than the current level of 90% capture, which is not cost-effective; or in the alternative produce less copper. An emissions fee would therefore not lead to less SO_2 emissions from domestic copper smelters and would be merely punitive on process emitters. Indeed, if copper production is shifted to other countries, overall SO_2 emissions could well increase.

Acid Rain and Copper Smelters

The record should clearly show that domestic copper smelters are not part of the acid rain problem, and, therefore, should not be part of the solution. Modelling studies show that copper smelter SO_2 emissions, which occur in the Western states of Utah, New Mexico, and Arizona, cause no material effect on acid rain sensitive areas of the Northeast or the West. Therefore, an emissions fee for copper smelters to help pay for acid rain controls would be inappropriate, especially since copper smelters currently have one of the highest levels of SO_2 control (over 90%) of any industry in the United States. It would be inequitable to force an industry that has already cleaned up its own emissions (at great cost) to pay again to clean up another industry's emissions. Smelters would then be in the unfortunate position of having paid for their own controls and those of the utilities, and then paying higher power costs as a utility ratepayer. It bears repeating that every environmental cost that is unilaterally imposed on domestic copper smelters adversely affects their international competitiveness and threatens U.S. jobs.

Existing Federal Tax Incentives for Mining are Important to Retain

A healthy United States mining industry is crucial to the nation's security and economic well-being. Certain existing federal tax incentives are of critical importance in encouraging the capital investment that is needed in this high-risk industry. These incentives are necessary to maintain a strong domestic mineral base and to allow the industry to survive in a cyclical and highly competitive international marketplace. Such incentives include deductibility of mine exploration and development costs, capital cost recovery (i.e. depreciation) and, particularly, percentage depletion.

Percentage depletion was adopted in the Revenue Act of 1926 in order to encourage the development of resources and to compensate miners and prospectors for the financial risks inherent in these enterprises. The massive capital requirement needed to open a mining operation, the above-average risks and long lead times involved from initial discovery to commercial production have been potentially offset with the percentage depletion incentive. As new mineral deposits are discovered, the risks and costs associated with commercial production escalate. Percentage depletion has aided in making the economics of developing a mine in the United States more attractive.

The mining industry has long been a major employer, producer and purchaser of domestic goods and services, stimulating the nation's economy, balance of payments and strategic independence. The viability of the U.S. mining industry has a positive effect

on the entire U.S. economy. The mining industry can ill afford the repeal or other significant change of the percentage depletion allowance, particularly a tax incentive that has aided in stimulating the mining business since 1926.

Groundwater Taxes

The idea of a Federal tax on groundwater source pollution is infeasible, inappropriate and unnecessary. It is infeasible because of the technical impediments to accurately monitor groundwater and detecting sources of pollution. Geological conditions, which are unique from site to site, determine the speed and direction of pollutant movement and make responsibility for contamination difficult to pinpoint. These uncertainties would handicap the chances of developing an equitable groundwater source pollution tax that would actually deter contamination. Administration at the Federal level of such a tax regime would also be costly and difficult.

We also believe it would be inappropriate for the Federal government to intrude into the area of groundwater protection, which has historically, for very sound reasons, been a state and local matter. States and local governments have the primary responsibility for protecting groundwater resources, and have many existing programs in place. It therefore would be inappropriate for the Federal government to enter into this arena without a clear reason to do so.

These shortcomings highlight the preferability of addressing these problems through regulatory methods such as the Resource Conservation and Recovery Act, Superfund and the Clean Water Act, with local and state requirements.

Metals and Recycling

We believe there is little need to provide tax incentives in the recycling of metals; or in the alternative, to tax virgin production of metals. The level of recycling for metals (aluminum, copper, lead, gold, silver, steel, zinc, etc.) is extremely high. Recently, Reynolds Metals Company recycled its 100 billionth aluminum can, since it began recycling in 1968. In addition, Reynolds recycled 450 million pounds of consumer-generated aluminum in 1989, and paid recyclers more than $180 million. Currently, there are around 10,000 aluminum can recycling locations in the United States.

Copper, however, is the most recycled engineering metal. It is technologically easy and economically attractive to recycle. Recycled copper metal is essentially identical to primary copper refined from ore. More than half the copper in U.S. mill and foundry products produced each year comes from recycled scrap resources. In 1988, while 3.2 billion pounds of copper came from newly mined ore, 3.4 billion pounds (over 50 percent of total U.S. copper supply) came from domestic scrap. This is true year after year. Copper's recycle value is in fact so great that premium-grade scrap copper normally has a value of more than 95 percent that of primary metal.

In regard to lead, over 75% of the Nation's use is for lead batteries. Over 90% of these lead batteries are recycled.

The majority of metals produced end up not in municipal waste or the ambient environment when disposed, but are recycled. It would therefore appear unnecessary to structure U.S. tax policies to tax virgin metals production, or to further encourage metal recycling. Each material (particularly metals) has a distinct market and unique technical characteristics. We would suggest that the best way for Congress to encourage additional recycling of metals would be to remove roadblocks to recycling that EPA has created under the Resource Conservation and Recovery

Act. A private, free-market approach, accompanied by national programs to educate the public on the values of recycling is preferred over tax schemes.

Conclusion

Mr. Chairman, we urge that the Committee move carefully in the area of using tax policy to further environmental objectives. We are concerned that taxes to further environmental programs could get caught up in, and held hostage to, overall efforts to reduce the budget deficit. Achievement of environmental objectives should be based on requirements of applicable environmental statutes, not on how much revenue can be obtained. There are many potential traps and pitfalls that could have severe adverse impacts on the continued viability of U.S. industry -- particularly the domestic mining industry -- and its international competitiveness. This is definitely true in the areas of emission fees, waste-end taxes, depletion, and recycling.

A STATEMENT FOR THE RECORD OF HEARINGS BEFORE THE WAYS AND MEANS COMMITTEE, U.S. HOUSE OF REPRESENTATIVES, HELD MARCH 6 AND 7, 1990.

Marcia Diers
Manager
Minnesota Rideshare

I am writing to encourage the U.S. House of Representatives to reconsider the inequitable tax on commute-to-work benefits and to consider fiscal measures to encourage the use of public transit and discourage commuters from driving alone in their automobiles.

In the Minneapolis-St. Paul area of Minnesota, as in most major urban areas of the country, automobile traffic and congestion are on the rise. Congested highways in the Twin Cities will grow from 45 miles in 1970 to 206 miles by the year 2000, an increase of more than 450 percent. Daily vehicles miles will double from 24 million to 48 million over the same period. But alarmingly, average daily vehicle occupancy will fall from an already low 1.5 people in 1970 to 1.3 people by the end of the century. Correspondingly, air emissions from autos is increasingly contributing to the deterioration of the Twin Cities environment and quality of life.

Policymakers locally, regionally and nationally are struggling to find solutions to catastrophic urban transportation problems that loom in the future. In the Twins Cities, public officials are moving toward the realization of such transit alternatives as light rail transit and a feeder bus system using high-occupancy-vehicle (HOV) corridors for buses, carpools and vanpools.

While the downtown cores of Minneapolis and St. Paul feel the brunt of traffic problems, increasing commercialization in the surrounding suburbs has resulted in severe congestion and led to discussions of development moratoriums until transportation problems can be solved.

Our mission at Minnesota Rideshare is to promote all transportation alternatives that will reduce the number of people driving alone in their automobiles. A program of the Metropolitan Transit Commission, the Twin Cities' primary public transit provider, Minnesota Rideshare is directly involved with promoting carpooling, vanpooling and bus riding through incentive-based programs targeted to Twin Cities-area employers. Our job is a huge one and we face obstacles at every turn, from free employee parking in the suburbs to subsidized parking downtown.

The tax on commute-to-work benefits works directly against every program we promote and is contrary to national public transportation policy. Taxing vanpools and employer-provided transit passes as benefit income adds an unnecessary incentive for commuters to drive themselves to work, contributing to our mounting congestion and pollution problems.

Minnesota Rideshare believes that tax incentives must be put in place to get people out of their single-occupancy vehicles and into carpools, vanpools and public transportation. Commuting alternatives to the single-occupant vehicle reduce congestion and vehicle emissions. We must transfer the costs of congestion and pollution to those people who choose to drive alone. We must share the benefits of improvements in our environment and quality of life with those who use public transportation, carpooling and vanpooling in commuting to work.

Minnesota Rideshare strongly encourages the House Ways and Means Committee to:

- Repeal the 1984 tax policy that makes employer-provided vanpool discounts and employee transportation allowances taxable fringe benefits;
- Consider a Federal subsidy of vanpools and public transit passes;
- Develop tax incentives for users of carpools and vanpools;
- Develop tax incentives to encourage employers to increase subsidies to employees who take advantage of alternatives to driving alone; and
- Consider policies to tax employee parking subsidies.

Thank you.

STATEMENT OF HARRIET PARCELLS
on behalf of the
NATIONAL ASSOCIATION OF RAILROAD PASSENGERS

Before the
COMMITTEE ON WAYS AND MEANS
U.S. HOUSE OF REPRESENTATIVES

HEARING ON LONG-TERM STRATEGIES AND THE ENVIRONMENT

MARCH 6, 1990

The National Association of Railroad Passengers (NARP) appreciates the opportunity to provide testimony to this Committee on the important relationship between tax policies and protection of the environment. NARP is a 22-year-old, 12,000-member consumer organization dedicated to bringing about a more balanced and environmentally-sound national transportation sytem.

The federal tax structure plays a pivotal role in shaping the nature of our transportation system. It influences investments in transportation infrastructure, the choice of commute mode, auto fuel efficiency and the way in which freight is shipped.

Current tax policies fail to support a transportation system that maximizes energy-efficiency and environmental protection. The low price of U.S. gasoline, the unlevel playing field in employer-provided tax-free commute benefits (i.e., free parking vs. minimal transit benefits) and the subsidy heavy trucks get under the highway tax structure produce a transportation system that wastes energy and contributes to environmental problems such as air pollution and global warming.

We recommend the following tax changes to enhance environmental protection as well as economic efficiency:

O INCREASE THE FEDERAL GASOLINE TAX, with revenues directed to investment in energy-efficient transportation modes: mass transit, intercity passenger trains and buses and certain rail freight purposes, carpooling/van-pooling and bicycle facilities; and for purchase/preservation of abandoned rail rights-of-way for future transit or recreational use;

O ELIMINATE THE BIAS IN THE TAX CODE THAT FAVORS DRIVING ALONE over using more environmentally-sound mass transit or carpooling/vanpooling;

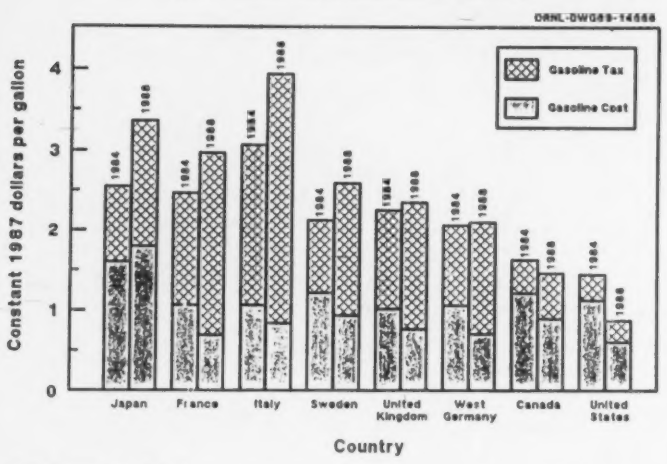
O ELIMINATE THE SUBSIDY ENJOYED BY HEAVY TRUCKS. The U. S. Department of Transportation estimates that the heaviest trucks pay only 65% of their "fair share" in taxes, giving shipment of freight by truck an unwarranted advantage over more energy-efficient and cleaner freight railroads. We also oppose increased truck weights and sizes, which would worsen the problem.

INCREASE THE FEDERAL GASOLINE TAX:

U.S. gasoline prices fail to reflect the value of non-renewable petroleum resources. U.S. gasoline prices are among the lowest of any industrialized nation in the world and they have been DECREASING substantially, at an average annual rate of 9.2% since 1982 (Ref: Oak Ridge National Laboratories).

Gas prices in many European and Asian nations exceed $3/gallon compared to less than $1/gallon here. The chief difference in gas prices in the U.S. and elsewhere is TAX. Federal and state gas taxes in the U.S. average about 25 cents a gallon while in other countries the tax may exceed $2 and is the major part of the cost of gasoline. Thus, although the actual cost of gasoline declined worldwide in recent years, the steep tax levied in other nations has kept the cost of gasoline high, sending a steady message to consumers about the value of this resource.

Figure 1.1. Gasoline Prices for Selected Countries, 1984 and 1988



Source: Total prices - See Table 1.2.
Tax - International Energy Agency, Energy Prices and Taxes, Third Quarter 1988, 1988.
From Oak Ridge Nat'l Laboratory, Transp. Energy Data Book: Edition 10.

An increase in the federal gasoline tax would help to recoup from highway users a greater share of the burden they impose on society. The Federal Highway Administration's Highway Statistics shows that in 1988 $18.2 billion in "non-user" taxes at all levels of government went for highway building and repair, up from $16.9 billion in 1987. When other costs associated with highway building are considered, such as publicly-supported fire, ambulance, police services and tax loss from land taken for highways, the subsidy to highway users is substantially higher--$300 billion annually by some estimates.

An increase in the federal gasoline tax would encourage greater energy-efficiency and environmental sensitivity in transportation and land-use planning. It would spur consumer demand for more fuel-efficient automobiles and encourage greater use of mass transit and other alternatives to the single-occupant automobile. An increase in the federal gasoline tax was a key recommendation of Blueprint for the Environment, a collection of policy and budget recommendations presented by some 30 environmental organizations to President Bush shortly after his election.

HOW TO SPEND THE MONEY:

Revenues from a gas tax increase should be invested in mass transit, intercity passenger trains and buses, carpool/vanpool facilities, and bicycle/pedestrian facilities. Greater reliance on these energy-efficient, clean modes will provide cost-effective relief to growing highway and airport congestion. Gas tax revenues should also be made available to states for rail freight projects and for purchase/preservation of abandoned rail rights-of-way that can be used for future transit or recreational needs.

Surveys and experience show that Americans are willing to leave their cars behind when they are provided with efficient, reliable commute and intercity rail alternatives. Moreover, the impact of the Clean Air Act and related state and local laws is likely to create an even friendlier environment for alternatives to what we call the "fly/drive syndrome."

Research by Jeffrey Kenworthy and Peter Newman of Murdoch University, Perth, Australia, indicates the significant energy benefits of greater reliance on mass transit and more compact city form. Examining 32 cities worldwide, Kenworthy and Newman

found that American cities use 4.4 times more gasoline per capita than European cities and that auto-oriented cities like Houston and Phoenix use 1.5 times as much gasoline per capita as transit-oriented cities like New York and Chicago.

Good transit and railroad projects regularly go unfunded for lack of federal support. The Urban Mass Transportation Administration has tougher guidelines for approval of rail transit than many people believe are warranted, yet UMTA says there is not enough money even for the federal share of the relatively few transit projects that meet its guidelines. In constant dollars, federal transit funding has eroded 50% since 1981; unmet transit capital needs to modernize and expand to meet increased ridership are great.

U. S. intercity passenger transportation investment is dominated by aviation even where rail could do the job better. Amtrak's success in the Northeast Corridor is well known: for every 2 people that fly from Washington to New York, more than 1 person takes the train. Amtrak carried 1.7 million people on its Los Angeles-San Diego line last year, up 376% from 1975 (service frequency rose only 167%), 363,000 San Francisco-Bakersfield (up 475% from 1975!), and 1.1 million on the New York-Buffalo line.

These successes help reduce pressure on aviation and highway facilities. Corridor development elsewhere has been stunted for lack of federal aid; states avoid projects where the federal share is small or nonexistent. We suggest the railroad component of the gasoline tax include 4/10 of a cent for Amtrak capital projects, and 1-2/3 cents for states to use on passenger and freight projects they chose.

CREATE A LEVEL PLAYING FIELD FOR COMMUTER TAX BENEFITS:

The present tax structure essentially pays people to drive alone to work. Employers can provide free parking to employees, a tax-free benefit worth $200-400/month in major metropolitan areas, but employers can only provide $15/month tax-free to transit-riding employeees, and part of the benefit of employer-provided carpool/vanpool programs is taxable. Thus, federal tax structure undermines cities' efforts to fight overdependence on single-occupant automobiles and related congestion and pollution.

The federal tax structure should skew tax-free benefits in favor of more energy-efficient, clean modes, or at least establish a "level playing field" regarding commuter benefits. The tax-free parking benefit should either be eliminated entirely or replaced with a commuter tax-free benefit of say $50/month which employees could apply to their monthly transit or commuter rail pass or parking or pocket if they walk or ride their bicycle. Rep. Matsui has proposed legislation (H.R. 2265) which would move things in the right direction.

ELIMINATE THE SUBSIDY FOR HEAVY TRUCKS:

Heavy trucks enjoy a substantial subsidy under present tax law. The U. S. Department of Transportation says the heaviest trucks--those that do the most damage to our highways, because road damage increases exponentially with increases in axle weights--pay only 65% of their fair share in highway taxes. This tilts the playing field towards trucks, which use about 3 times more energy per ton-mile than competing freight railroads. And, trucks emit higher levels of polllutants per ton mile. Thus, the current subsidy increases highway maintenance costs and accident rates, and contributes to air pollution and dependence on imported oil.

We oppose further increases in truck size and weights. We favor a national weight-distance tax (taxing heavy trucks according to their weight and distance travelled) as the most equitable way to tax heavy trucks.

National Association of Railroad Passengers 202/546-1550
236 Massachusetts Ave., NE, Suite 603, Washington, DC 20002

Written Statement of The National Association of Royalty Owners, Inc. for the Record of Ways and Means Committee's Hearing on Long-Term Strategy Hearings on The Environment

The National Association of Royalty Owners (NARO) is a national organization, headquartered at 119 North Broadway, Ada, OK 74820. NARO is devoted exclusively to the interests of the over 2 million oil and gas royalty owners.

The National Legislative Council of NARO, met in Washington, D.C., February 26, 1990. At that time, the Council passed a unanimous resolution in support of S. 828, introduced by Senator Pete Domenici, and others, and H.R. 3121, introduced by Ways and Means Committee member J.J. Pickle, and others. It is our belief that passage of these measures is essential to:

Protect our national security

Alleviate many of the problems of our national trade deficit

Increase our national base of petroleum reserves

Maintain the health of our domestic oil industry.

Imports of oil now exceed 50% of U.S. consumption. This places our energy-based economy at the mercy of the actions and decisions of the foreign governments who control production of this imported oil.

The "Enhanced Oil and Gas Recovery Tax Act of 1989", the title of S. 828/H.R. 3121, will provide the domestic industry with the incentive to recover an additional 10 billion barrels of oil from known reserves.

An increase in domestic inland production will reduce the threat to our coastal environment by reducing the hazards associated with the transporting of oil by barge and tanker.

The increase in production as a result of an enhanced recovery incentive will not result in a rise in the price of oil to consumers.

An increase in production will provide new American jobs in areas of relatively high unemployment.

In sum, there is no legislation pending before Congress that matches the public good that S. 828/H.R. 3121 would accomplish in the area of energy and environmental policy.

NARO urges the immediate passage of this legislation and considers it a top priority issue to the American economy and American national security.

STATEMENT BY MR. DAVID R. WILSON

President and Chairman of the Executive Committee
National Association of Water Companies

before the U.S. House of Representatives
Committee on Ways and Means

TAXING CAPITAL CONTRIBUTIONS SPAWNS ENVIRONMENTAL INSULTS

March 6, 1990

I. INTRODUCTION

I submit this statement on behalf of the National Association of Water Companies ("NAWC"), of which I am President and Chairman of the Executive Committee. I am also Senior Vice President of Philadelphia Suburban Water Company headquartered in Bryn Mawr, Pennsylvania.

We commend the Committee for holding these hearings in recognition of the tax code's real and potential impact on environmental concerns, and we appreciate the opportunity to submit this statement on the adverse impact that one existing tax has on public health and the environment.

NAWC is the not-for-profit trade association representing over 300 private or investor-owned water supply companies. The rates and services of these companies are regulated by state public utility commissions, and the quality of the drinking water they provide is regulated by EPA under the Safe Drinking Water Act or by state agencies under laws that are no less stringent.

NAWC's 300-plus member companies serve about 22 million Americans in some 38 states. Many of these companies, by themselves or through affiliates, also operate sewerage disposal services. The following testimony -- showing how the 1986 Tax Reform Act's creation of a new tax on capital contributions in aid of construction ("CIAC") had unintended and adverse consequences with respect to environmental and health risks -- draws heavily on experiences of NAWC's member companies.

II. SUMMARY OF POSITION

NAWC is part of a broad coalition (which includes state regulatory commission, union, consumer, utility, contractor, and other groups) seeking to restore the historic, pre-1987 federal tax law which properly treated CIAC as capital payments not to be included in the income of regulated water, sewerage disposal, electric, or gas utilities. The Tax Reform Act of 1986 essentially created a new tax on CIAC.

CIAC are payments or transfers of property to a utility to enable it to extend or expand service. These payments or transfers may be made by home buyers, commercial or office parks, plants, developers, farmers, or even units of government (for schools, hospitals, prisons, or military installations, for example). CIAC constitute a traditional and important method by which utilities raise capital needed for new or additional infrastructure facilities. CIAC are particularly important for areas of new growth and development.

The problem, in a nutshell, is this. Taxing capital contributions to public utilities to enable construction of new or additional infrastructure facilities makes these facilities substantially more expensive. Making them more expensive creates barriers to their construction. And in many cases these facilities were needed for protection of the environment and public health and safety.

NAWC maintains that:

- the CIAC tax is not supported by sound tax policy;
- it is not supported by any other legitimate federal policy; and

it wars with environmental and health policies (and others such as policies to encourage economic growth, to encourage construction of housing at affordable prices, to build and improve infrastructure, and to avoid inflationary pressures on consumers).

Therefore, this tax should be repealed.

Accordingly, we support the bill that would accomplish this important objective, H.R. 118.

This legislation already has the support of over 130 House Members, including half of this Committee, for which we are grateful. (The Senate companion, S. 435, has 32 cosponsors.)

In recent testimony before the Subcommittee on Select Revenue Measures, the Treasury Department stated that it did "not support" this bill, but apparently Treasury also does not oppose. Thus, Treasury essentially has deferred to Congress on the merits of this issue, to which I now turn.

III. IMPACT OF THE TAX ON ENVIRONMENTAL/HEALTH CONCERNS

I begin with specific examples of the unintended consequences of the CIAC tax which conflict sharply with environmental and health interests. The next section IV analyzes policy considerations. An appendix provides a summary of how the CIAC tax works.

A. Midwestern Town Suffers Tax-Induced Inflationary Costs To Get Adequate Supplies of Safe Drinking Water

A small midwestern town's municipal water supply contains fluoride in concentrations exceeding EPA's Safe Drinking Water Act standards. Fluoride is a suspected carcinogen. Also, there is a limited supply of ground water. Each of the town's 2000 customers consume an average of 84,000 gallons per year, paying $180 for this service.

The most practical solution to the limited-quantity and poor-quality problems is for an investor-owned water supplier to construct 15 miles of 12-inch pipe to serve this town with properly treated water. The estimated cost is $2.8 million with CIAC of $1.2 million, to be paid by a surcharge on each customer's bill of $170 per year. Of that amount, $43 is attributable to the CIAC tax.

The investor-owned utility thus becomes a tax collector for the government while the town's customers are forced to pay a regressive tax almost like a penalty for trying to improve the quality of their drinking water.

B. Texas: Proliferation of Small Systems, Questions of Economic Viability, and Ability to Meet Environmental Regulations

Texas has over 1000 water utilities, most of which have fewer than 1000 connections. Since these smaller companies cannot pay the CIAC tax when a developer contributes property for service extensions, they must require the developer to pay the tax, too. This has resulted in an even greater proliferation of small systems as developers choose to create their own systems (i.e., drill their own wells) rather than contribute facilities to established companies and pay taxes on top of that.

This is an example of a growing problem highlighted in a recent letter by EPA Assistant Administrator for Water LaJuana A. Wilcher:

> "We are concerned about the impact that any tax related changes have on the capabilities of larger water and sewer companies to extend service to adjacent growing areas. Policies that erect significant barriers to larger companies extending their service create a situation conducive to the establishment of new small utilities. In many cases, these new small utilities are not economically viable over the long term in providing services that meet EPA's regulations."

C. Connecticut Towns Pay 60 % More To Gain Access to Potable Water

This example is taken from a February 28, 1990 letter by Mr. Richard F. Albani of the Connecticut Department of Public Utility Control.

Thirty to fifty years ago, much of the land in north central Connecticut was used for growing tobacco, which included the use of vorlex and ethylene dibromide ("EDB") as pesticides. Over time, the land was developed and private homes were constructed with private wells, many of which became contaminated by the pesticides.

The Connecticut Department of Environmental Protection ("DEP") was called in to evaluate the degree of contamination and determine the least-costly long-term solution toward solving this problem in Simsbury, East Grandy, South Windsor, East Windsor, Somers, and Ellington. For the short-term, bottled water was delivered daily to the residents affected. For the long-term, DEP determined that the water mains of neighboring utilities should be extended to serve the affected areas; this was feasible, least-costly, and in the best interest of the public. Both the Village Water Company and Connecticut Water Company were authorized to extend their water mains at the expense of the towns involved and DEP.

DEP also determined the CIAC tax applied to all contributed plant regardless of who paid for the mains to be extended. Thus, the towns and the DEP paid 60-70% more than the actual constructions costs to satisfy the IRS requirements and assure the communities adequate supplies of potable water.

D. Jefferson County, Missouri: Sewage Effluent Creating Unhealthy Situation

In Jefferson County, Missouri, home septic tanks in Weber Hill Manor and Weber Hill Terrace are overflowing. The clay soil on which the homes are sited has absorbed as much as it can. Consequently, septic effluent is surfacing and polluting the groundwater. Even though this creates an unhealthy environment, the residents of these moderate-income housing units are unable to afford the necessary sewer trunk lines because of the CIAC tax which made them more expensive.

E. Ohio Department of Mental Retardation: State Agency Pays Tax

This is another example where PUCs require utilities to collect CIAC tax costs from CIAC contributors, even government agencies. The Ohio Department of Mental Retardation is negotiating with an investor-owned water company for installation of about 1600 feet of water main for service to a new vocational workshop. The estimated cost is $35,000.

Ohio Public Utilities Commission rules state that the utility cannot refund (over 15 years) more than 66% of the amount of the Mental Retardation Department's contribution for this extension of service. Due to the CIAC tax, taxpayers would not be entitled to $12,000 of their refund. Prior to 1987, the full contribution would have been eligible for refund.

F. Higher Costs for Safe Drinking Water Act Compliance in Texas, Utility Losing Customers, Customers Giving Up Treated Water

A significant problem the Texas Water Commission has encountered is the need for system improvements to meet standards required by the Safe Drinking Water Act. Given the economic and banking problems in Texas, investor-owned utilities simply cannot borrow funds for system improvements. These utilities have been coming to the commission for capital improvement surcharges, essentially customer contributed capital. Improvements installed with this money may not be depreciated or allowed in rate base for return. They are simply additional facilities for existing customers, for which the utilities cannot raise rates. Since the utility does not actually see any revenue increase, the tax burden must then come from the customer surcharge account. In other words, the customer pays for the improvements up front and then must also pay a tax on their contributions. This seems to be a situation of paying income taxes on something that is not income to anyone.

A typical example is Oak Ridge Utility, also known as Pine Springs, with over 5,000 customers. It was allowed a surcharge of $7.28 per customer per month for three years, but then due to the surcharge it lost almost 10% of its customers, experienced severe cash flow problems, and had to defer needed improvements. Many customers who left the system now use non-potable well and surface sources for water and sometimes bottled water for drinking and cooking.

G. Newton Square, Pennsylvania: Water Quantity and Quality

Newton Square development provides modest housing to lower and middle income families. Water and sewer services in the development are provided through individual wells and septic systems. The slightest deficiency in rainfall obliges residents to ration water. There is also concern about potential water contamination because of the proximity of wells to septic tanks. Philadelphia Suburban Water Company could extend service to this development for $118,648, but the CIAC tax raises that cost to $196,000, which the community simply cannot afford.

H. Hopewell Junction, New York: Failed Septic Systems and Contaminated Water Supplies

Similar to the Newton Square case is the situation in Hopewell Junction, New York, on which that state's Public Service Commission Chairman Peter A. Bradford commented in a January 11, 1990 letter to Senator Moynihan:

> "The [CIAC] tax serves as a major deterrent to the expansion of adequate sewage and water facilities to replace failed septic systems and contaminated water supplies. Congress could not have intended these results. The minor impact this tax has on Treasury [revenues] does not warrant the potential risks to public health and safety."

I. Clinton, Connecticut Faces $1 Million CIAC Tax Cost To Comply with State Health Department Orders for Potable Water Supplies

This example is taken from recent testimony before the Select Revenue Measures Subcommittee by Virginia D. Zawoy, First Selectman (chief executive officer) of Clinton, Connecticut.

Clinton is currently under three State Department of Environmental Protection orders, one for sewers due to groundwater pollution and two addressing contamination emanating from a closed landfill which has been cited as violating the Clean Water and Safe Drinking Water Acts and has been reviewed as a potential Superfund site. The contaminants found in residential wells near the landfill include benzene and toluene, components of gasoline and other fossil fuels, and trichloroethylene, generally used as a degreasing agent.

The goal of the orders against the town requires that a safe, potable water supply be provided to homes with contamination. The town is in the process of notifying the primary responsible parties and conducting risk assessments. The State Health Department has taken an active stand against the drilling of any new wells within the area of the landfill due to the potential for contamination.

The only acceptable water source is a privately held water company. The town will have to construct water mains costing $2,320,000, which will require an additional payment for CIAC tax of almost $1,000,000. The cost would actually be more than this, since the town must borrow money to pay these sums. Also, since state orders have defined the town as the polluter as a result of its owning the landfill, the town cannot pass on to users any of the cost of the water main.

Clinton's 13,000 people have an average per capita income of $12,826. The town's budget is $22,000,000, and last year it experienced its first deficit. The cost of constructing its needed water main would be 10.5% of annual budget, and the CIAC tax would add another 4.5% As Selectman Zawoy said, "Clearly, this is a burden that the local taxpayer should not have to bear, particularly when the Town is meeting its obligations to provide a healthy quality of life to its residents."

J. Illinois Towns: Project Held Up, Water Supply Contaminated with Radionuclides Still Being Used

Due to the presence of radionuclides in their wells, the towns of Mapleton, Glassford, and Kingston Mines asked a nearby investor-owned water company about extending service. The extension was estimated to cost $3,000,000, of which the utility would invest $500,000. However, the remaining amount would have to come via CIAC, and the tax on that would be about $1,000,000. Primarily because of this additional tax cost, the project has not gone forward, and radionuclide-contaminated water is still being used.

IV. POLICY CONSIDERATIONS FOR REPEALING THE CIAC TAX

The conceptual basis for repeal lies in the reality of CIAC as capital contributions, not income. They are capital because they enable a business to create facilities used for the production of income. It merely emphasizes the point to remind you that PUCs would previously have allowed inclusion of CIAC-financed facilities in a utility's rate base (and thus allowed the utility to earn income on them) but for the fact that there is no economic cost to the utility's owners associated with the capital infusion provided by the CIAC.

Second, as Congress recognized in 1976 and 1978, when it enacted legislation to preserve the historic rule of nontaxability, the immediate inclusion of CIAC in income causes a mismatching of income and related expense because the utility must increase its taxable income in the year which it receives the contributions although most of the deductible expenses attributable to the facilities would not arise until subsequent years.

Third, as Congress also recognized in 1976 and 1978, inclusion of CIAC in the gross income of utility companies leads to substantial increases in charges to utility customers. Because the increased charges must be approved by PUCs, the working capital of the utilities has been substantially reduced, resulting in considerable delays and curtailments in furnishing utility services. Nontaxable treatment of CIAC would assist a utility in meeting the demands for new and increased services.

Fourth, because PUCs provide for passing the tax on, its inflationary impact falls on customers, home buyers and renters, new businesses, developers, farmers, government agencies, and others. This means, in practice, that the new CIAC tax is an anti-growth and development, anti-infrastructure, anti-affordable housing tax. It can raise prices of new homes by as much as $2,000 each.

But of signal importance to the extant hearing is the effect taxation of CIAC has on environmental and health concerns. You have just seen examples of this where CIAC taxation delays or bars extension of water and sewer lines, leaving communities without adequate supplies of potable water or untreated or inadequately treated sewage. It can also mean inadequate water service for fire protection.

NAWC believes that the CIAC tax falls for short of serving valid federal tax policy and that it sharply conflicts with vital federal policies and concerns in several areas including environment and health.

CONCLUSION

For these reasons, we urge the Committee to approve H.R. 118, the bill to repeal the CIAC tax.

APPENDIX

The CIAC Tax and How It Works

State public utility commissions ("PUCs") have long recognized CIAC as capital payments. Because there is no economic cost to the utilities from these capital infusions, however, PUCs historically did not allow utilities to include the amount or value of CIAC assets in their rate base for rate-making purposes, or allow utilities to earn income on them.

Similarly, the federal government historically did not assess an income tax on these capital payments, nor did it allow depreciation to be claimed or investment credits to be taken on assets acquired by or with CIAC. This historic rule of nontaxability was carefully reaffirmed in legislation enacted in 1976 and 1978.

This tax rule, of course, is what the 1986 Act changed. The new CIAC tax is treated, under traditional PUC regulatory laws and practices, as a cost of providing service, as are other federal taxes.

In most cases PUCs ruled that the increased cost resulting from the CIAC tax should be paid by the CIAC contributor. If, say, $100,000 is required to construct a service extension, now the contributor must pay $150,000 so that, after the utility has paid $50,000 (34 %) of it in CIAC taxes, the utility will have $100,000 to do the job! (Please note that the $50,000 figure is used just to illustrate the impact of taxing CIAC. In practice, the amount of tax depends on factors such as (a) possible additional state income or other taxes where state law follows the federal model, (b) the utility's applicable tax rates, and (c) possible downward adjustments in taxes to reflect the depreciability of CIAC-taxed assets.)

Some PUCs have authorized utilities to spread CIAC tax costs among all their customers, often including those not benefitting form the CIAC-financed facilities, by increasing utility rates to all.

Nowhere does the legislative history of the 1986 Act acknowledge that the CIAC tax, nominally laid on utilities, would -- as the virtually inevitable result of historic state regulatory law and practice -- be a tax on consumers! But that is precisely how it works.

TESTIMONY OF RICHARD E. AYRES
CHAIRMAN, NATIONAL CLEAN AIR COALITION
on
TAXING AIR POLLUTION

to the

COMMITTEE ON WAYS AND MEANS
U.S. HOUSE OF REPRESENTATIVES
WASHINGTON, D.C.

TUESDAY, MARCH 6, 1990

Mr. Chairman, and members of the subcommittee. My name is Richard E. Ayres. I offer my testimony today as Chairman of the 31 national organizations, hundreds of local organizations and the millions of individual Americans represented by the National Clean Air Coalition. I have attached a list of the member organizations of the Coalition for the benefit of Members who are unfamiliar with our organization.

Our member organizations care about national parks and wilderness, and also about America's farms. We care about blue skies, the earth's creatures and clear waters. We also care about childhood lung diseases, public transportation, and liveable cities. And we care about economic progress and jobs.

I mention all this because there seems to be a preoccupation in the current clean air debate over the supposed economic consequences of pollution control. Regulated industries have concocted grossly inflated cost estimates and warned of dire consequences to American business should a responsible Clean Air Act be enacted.

What is frustrating to us is the implication in these criticisms that pollution control expenditures are not "productive" -- an implication available because our economic system treats the environment as a "free good."

The pollution control industry and its hundreds of thousands of workers would dispute this approach, as would the victims of air pollution health damage. But the misimpression has been allowed to persist.

Today's hearing on pollution taxes suggests there might be a way for the nation -- with the help of the Ways and Means Committee -- to get past all this scare talk and econometric ballyhoo and get on with the job of cleaning the air. A system of pollution taxes would, in effect, assign a monetary value to the use of our nation's air and water resources.

When economic entities can make use of such a resource for free, the argument goes, they have no incentive to minimize how much of it they use. If environmental damage were monetized, so the theory goes, profit-oriented industrial managers would be given the proper cues for better environmental management through the market system. Pursuing lower costs of production, they would reduce their use of environmental resources, just as they do with other costly factors of production.

In simple terms, pollution taxes would encourage cleanup by putting the shoe on the other foot.

According to the theory, taxing pollution will stimulate cost-effective cleanup. Private industry will make pollution control investments up to the point where its costs --- pollution control plus pollution tax --- are minimized. Thus, industry will naturally develop the most cost-effective pollution control

measures --- reducing the maximum amount of pollution for the amount of money spent.

Taxing pollution would also stimulate innovation in pollution control. Polluters whose control costs are higher than the tax will have a financial incentive to find new ways to reduce pollution at a cost lower than the cost of the tax. To the extent they are successful, society will benefit by being able to enjoy a higher quality of life without increased cost.

Thus pollution taxes would have an obvious environmental benefit; they can also provide substantial new revenues to help balance the federal budget.

So goes the theory. It makes some sense on paper. But it must pass its final exam in the real world, and here the situation is more complicated.

Our nation's air and water resources belong to all Americans. Exponents of pollution taxes say those who wish to use these resources for business purposes should be required to pay the public for the privilege.

But others argue that our resources of air, water and land should not be for sale. Still others who support the pollution tax idea worry that the tax level inevitably will be set below the level necessary to generate the pollution control response.

We believe that the costs pollution imposes on society are the most defensible metric for a pollution tax. The American Lung Association recently estimated, for example, that $100 billion was a defensible estimate, based on mid-range assumptions, of the annual burden of sickness and death from air pollution. Crop damage from air pollution is estimated at between $3 billion and $5 billion per year. The economic cost of acid rain is put at $7 billion per year or more, a number that certainly underestimates the extent of acid rain's burden on our society.

The challenge for the Ways and Means Committee would be to impose a tax burden commensurate with the health and welfare costs of pollution.

There is a corollary problem that is a virtual paradox. Our society emits so <u>much</u> pollution that is impossible to set pollution taxes at a rate high enough to have a public policy impact without raising enormous revenues.

A 25-cent per pound tax on sulfur dioxide, for example, would bring in nearly $8 billion from the utility industry.

A 16-cent per pound tax on airborne carcinogens and other air toxics, similar to the tax on a pack of cigarettes, would raise nearly half a billion dollars from the chemical industry.

A ten-cent tax on each pound of smog-causing organic compounds and nitrogen oxides would generate more than $8 billion per year.

A penny-per-pound tax on poisonous carbon monoxide just from cars, trucks and buses would raise nearly $900 million per year; ten cents would raise $9 billion, just from mobile sources.

<u>Status of Clean Air Debate</u>

The Congress appears to be moving toward a much more market-oriented air pollution reduction approach. The Senate is considering an acid rain control program similar to the one advanced by President Bush last summer. This program will

require reduced emissions of sulfur dioxide, the precursor of acid rain through an innovative market-based regulatory system.

But it will also license the use of the atmosphere without charge as a dumping ground for about 14 million tons per year of sulfur oxides pollution. We would recommend that, to supplement the regulatory system, a tax be placed on the emissions permitted under the acid rain program.

This would encourage further reductions, which are needed to protect sensitive environmental values. And it would bring substantial revenue: a tax of $0.25 per pound of SO2 would yield about $7 billion in revenue on a 14 million ton emissions base.

The current Clean Air Act has failed to provide adequate control of urban smog and of emissions of toxic pollutants into the air. More than 100 cities still suffer chronic smog, and more than 40 suffer unhealthy levels of carbon monoxide pollution. More than 50 exceed health standards for fine particles. Toxic chemical emissions are nearly 3 billion pounds per year -- just from major manufacturers and users of carcinogens and other dangerous chemicals. Plainly, the public health requires more effective programs.

But the Congressional discussion of policy options for addressing this problem has run into a conundrum. While public health clearly requires greater levels of pollution control, industrial interests argue that the technology to achieve public health goals does not exist; will not be developed; or will cost too much to implement. How such cost estimates can be made on the basis of supposedly nonexistent technology is beyond me. Nevertheless, that is the state of our clean air debate.

In some cases this argument is obviously manufactured for use in lobbying Congress. In other cases, less polluting technologies probably do not now exist. And in many cases, managers may not know of less polluting alternative processes or pollution controls because they have never had a financial incentive to look for one.

The record is full of examples of "miracle" cures to pollution problems. In Southern California, furniture refinishers complained that reducing the volatility of surface coatings would put them out of business. Then regulators found a technology already developed that uses ultraviolet light to cure wood coatings.

The new process is actually cheaper to use as well as environmentally beneficial. That was a case where aggressive regulators would not take "no" for an answer, and identified alternative technologies on their own initiative. There must be dozens, even hundreds, of other technologies that regulators won't find, and industry won't look for without incentive.

Federal taxes on smog-forming emissions and emissions of toxic chemicals could fill this requirement, providing the appropriate incentives for solutions, while leaving industrial managers free to pursue solutions that best fit their particular situation.

The new Clean Air Act now taking shape will provide for up to 20 years for eliminating the health threat of urban smog. This excessively extended schedule is a direct Congressional response to arguments that technology to move more quickly is either unavailable or too expensive. Imposing a tax on smog-forming hydrocarbon emissions would test the accuracy of these claims, and stimulate measures that would cut smog more quickly.

The Administration and the Senate have just finished a bruising back room negotiation over the appropriate level of

public health protection and timetable for cleaning up toxic air emissions. All parties are agreed that sources of about 200 of the most toxic chemicals should be required to install today's best technology.

But the negotiators did not resolve a policy to protect public health in those instances where today's technology is not adequate to provide protection. In the end, the Administration prevailed with its view that health protection should be compromised. In cases where full health protection is not achievable in the short term, a heavy tax on toxic emissions along with additional time to find new technologies might strike the proper balance.

It is also important that the Committee impose similar charges on foreign goods in order to maintain a level playing field for U.S. goods and avoid "pollution exports" designed to avoid U.S. environmental and tax policy.

A little thought suggests other promising ideas for using taxes for environmental improvement. Why not tax the airborne chemical emissions reported under the superfund "right to know" provision? Reporting is already required. A new form 1040-GASP could provide a simple and effective incentive to minimize leaks and other "routine" toxic emissions.

Taxes can also be used to encourage the marketplace to select environmentally benign or beneficial goods.

To fight global warming, we could use a tax on low-efficiency appliances, similar to the "gas guzzler" tax.

A similar tax extended to high-emission vehicles would encourage so-called "clean fuel" alternatives as well as improvements in conventional technology.

Best of all, from the perspective of the environment and the taxpayer, these are taxes polluters could legally avoid, simply by reducing their pollution.

I welcome the Committee's questions.

NATIONAL CLEAN AIR COALITION

1400 16th Street, N.W. Washington, D.C. 20036 (202) 797-5436

The National Clean Air Coalition includes these national organizations:

Amalgamated Clothing and Textile Workers
American Federation of State, County and Municipal Employees
Americans for Democratic Action
American Lung Association
Asthma and Allergy Foundation of America
Center for Auto Safety
Citizens for a Better Environment
Environmental Action
Environmental Defense Fund
Environmentalists for Full Employment
Friends of the Earth
Garden Clubs of America
International Association of Machinists and Aerospace Workers
International Maple Syrup Institute
Izaak Walton League of America
League of American Wheelmen
League of Women Voters of the United States
National Association of Railroad Passengers
National Audubon Society
National Consumers League
National Council of Churches of Christ
National Farmers Union
National Parks and Conservation Association
National Urban League
National Wildlife Federation
Natural Resources Defense Council
Oil, Chemical and Atomic Workers International Union
Sierra Club
Trout Unlimited
Union of American Hebrew Congregations
United Methodist Church - Board of Church and Society
U.S. Public Interest Research Group
United Steelworkers of America
The Wilderness Society
Western Organization of Resource Councils

The National Clean Air Coalition is also a network of thousands of individuals and state and local organizations concerned with the environment, health, labor, parks and other resources threatened by air pollutants.

STATEMENT

OF

W. GRAHAM CLAYTOR, JR.

PRESIDENT AND CHAIRMAN OF THE BOARD

NATIONAL RAILROAD PASSENGER CORPORATION

My name is W. Graham Claytor, Jr. I am President and Chairman of the Board of the National Railroad Passenger Corporation (Amtrak). We very much appreciate the opportunity to address this Committee regarding the manner in which the federal tax system could be used to improve the nation's environment and transportation system. As the America's only intercity passenger railroad, Amtrak strongly believes that enhanced rail passenger service not only would improve the nation's environment and help ease our energy security concerns, but it could also alleviate the pressure to undertake enormously expensive and environmentally obtrusive highway and airport capacity expansion projects in many crowded transportation corridors. To help fund the acquisition of new passenger equipment and high-speed rail right-of-way improvements, Amtrak urges that a small portion of the revenues generated by any congressionally-enacted increase in the federal gasoline tax be used to support critical capital projects to improve rail passenger service in this country.

Congress established Amtrak in 1970 in an effort to salvage rail passenger service as a viable transportation alternative in densely-populated corridors and as a vital public transportation link to rural America. Now, in its nineteenth year, Amtrak has demonstrated the growing demand for an energy-efficient, environmentally-benign alternative to the congestion that is so choking this nation's highways and airports. Equally as important, Amtrak is demonstrating the improved economics of rail passenger service. From a low of just 42 percent in 1978, Amtrak is now covering nearly 75 percent of its operating costs without federal support and hopes to increase this to 78 percent next year. Indeed, Amtrak recently announced its commitment to eliminating its need for any federal operating support by the year 2000, a goal no passenger railroad in the world is presently achieving.

One of the keys to Amtrak's ability to achieve this goal and, indeed, to its future role in the national transportation system, will be its ability to fund new equipment purchases. As discussed below, federal capital support for Amtrak during the past decade has been far too little and erratic to enable Amtrak to acquire new passenger cars to add capacity on sold-out routes or to replace outdated, low-capacity equipment. As a result, Amtrak is turning away millions of potential passengers. During the next several months, Congress will consider various proposals to address the growing concerns about the adequacy of our national transportation system. In the event Congress approves an increase in the federal gasoline tax as a means of addressing those concerns, Amtrak is proposing that a small portion of the new revenues be used to support Amtrak's important capital needs. This would provide a dependable source of capital funds, which could be supplemented in the private financial market, to permit Amtrak to play a greater role in alleviating congestion in densely-populated transportation corridors and as a vital link to rural America. This proposal is supported by a number of environmental groups, and the Blueprint For The Environment, a proposal by some 30 major environmental organizations, endorses use of new gasoline tax revenues to support energy-efficient modes including Amtrak. The ultimate result of adequate capital funding will be an Amtrak capable of meeting the growing demand rail passenger service at no annual operating cost to the federal government.

Amtrak's goal of covering its own operating costs comes at a particularly auspicious time in this nation's history. Several rather ominous developments and predictions underscore the need for a comprehensive national transportation policy that looks increasing to intercity rail passenger service in many crowded corridors and encourages its use as a long-distance transportation alternative:

- o Transportation accounts for 65 percent of petroleum use in the United States and petroleum imports have risen to 35 percent of total supply. By the year 2000, 60 percent of the nation's gasoline supply is expected to be refined from imported petroleum.

- o Air pollution from motor vehicles is responsible for $40-50 billion in annual health-care expenditures and as many as 120,000 premature deaths each year.

- o The Federal Aviation Administration estimates that flight delays in 1986 increased airline operating expenses by $1.5 billion and cost passengers an additional $1.5 billion in lost time and productivity.

- o The Department of Transportation estimates that delays to travelers and commuters on United States highways will reach 3.9 billion hours per year by 2005 unless significant improvements are made. The Transportation Research Board projects that within 20 years these delays will grow to some 5.6 hours, result in the unnecessary consumption of 7.3 billion gallons of gasoline a year, and cost travelers an extra $41 billion.

Increased reliance on rail passenger service can alleviate some of these critical problems. Amtrak is prepared and eager to play an increasingly important role in a national transportation system that is sensitive to energy and environmental concerns and the needs of urban and rural America. First, we can and should be the primary public transportation carrier in high-density corridors -- such as Washington-New York; New York-Boston; Los Angeles-San Diego; Chicago-Detroit, and various others -- thereby freeing-up limited airport capacity for longer-distance air travelers. For example, one-third of the passengers flying out of Boston's congested Logan Airport, and one-fifth of the passengers flying out of New York's equally crowded major airports, are traveling between Boston and New York. High-speed rail service between the two cities in three hours or less, sufficient to attract large numbers of business travelers, could significantly reduce the need for flights between the two cities, thereby easing airport capacity concerns. In this connection as well, Amtrak hopes to expand its contract commuter operations to assist cities in providing reliable, marketable commuter rail service in congested cities. During the past year, Amtrak signed an agreement to operate commuter service between Northern Virginia and Washington, and between New Haven and Old Saybrook, Connecticut, and Amtrak is looking at several other interesting opportunities in California and other states.

Second, as airlines and bus companies continue to pull out of rural America, Amtrak service increasingly is looked to as a vital link -- in some cases the only public transportation link -- to America's heartland. With additional equipment, Amtrak can improve and expand its long-distance services to an increasingly isolated segment of this country.

Lastly, Amtrak is the logical and most experienced leader in the area of high-speed rail. We are committed to applying our expertise to assist in the development and operation of new high-speed rail systems, both based on magnetic levitation and on more conventional technologies. I firmly believe that there can be a bright future for high-speed rail in key transportation corridors in this nation and Amtrak intends to play an active role in helping develop this potential.

In short, we are excited by the challenges ahead and are confident that, if given the needed tools -- legislative relief from outdated laws and capital -- we can indeed be an important part of the solution to this nation's transportation needs.

Investing In Amtrak's Future

The primary fuel that fed Amtrak's dramatic financial improvement during the 1980s was the nearly $1.3 billion in federal capital assistance appropriated to Amtrak between 1976 and 1984. This capital enabled Amtrak to purchase its fleet of Amfleet II and Superliner cars and over 200 diesel and electric locomotives; to restore and modernize hundreds of Heritage passenger cars; to acquire and modernize several of Amtrak's major equipment overhaul facilities; and to invest in new equipment and machinery that could vastly improve car, locomotive and track maintenance. The result, beginning in 1981 and continuing to the present, has been dramatic: a 50 percent improvement, from 48 percent to 72 percent, in Amtrak's ability to cover costs with revenue.

It will take a similar capital investment to give Amtrak the tools -- equipment and modernized facilities -- to match the financial improvement of the 1980s and enable it to cover 100 percent of its operating costs with revenues. Amtrak's capital needs, while modest for a Class I railroad with a $2 billion operating budget, nonetheless are significant. During the next decade, Amtrak will need federal, state and private support to fund numerous essential capital programs:

- Some 270 new, state-of-the-art locomotives will be needed to replace exhausted equipment and to provide additional motive power for longer trains and potential new services.

- Approximately 175 new Superliner and 307 Viewliner cars will be needed to meet the growing demand for rail passenger service on existing, capacity-constrained routes, to replace the 40-year-old Heritage sleeping car fleet, and to add new routes and frequencies where economically justified. The new equipment will be more efficient to operate and carry a larger number of passengers in a more pleasant, amenable environment, thereby generating significant additional revenues.

- Amtrak's maintenance and overhaul facilities must be upgraded with new, more efficient equipment and redesigned to permit important cost-saving productivity improvements. The result will be improved equipment reliability, better maintained cars and locomotives, reduced maintenance costs, and better working conditions for Amtrak's employees.

o Infrastructure improvements to the Northeast Corridor to provide better than 2 hour 15 minute service between Washington and New York and at least 2 hour 59 minute service between New York and Boston will generate significant incremental revenue and ridership for Amtrak and further solidify Amtrak's predominance as the carrier of choice in the Northeast Corridor. This in turn will ease the need for costly highway and airport expansion programs in the region. Amtrak is working with the Coalition of Northeastern Governors (CONEG) and the U.S. Department of Transportation to undertake a state/Amtrak/federal program to fund improvements to the rail line north of New York and to acquire the new "tilt technology" passenger cars that will be required to meet demand for high-speed rail passenger service along the entire length of the Northeast Corridor.

o Badly-needed improvements to other rail corridors, such as between Los Angeles and San Diego and on several routes out of Chicago, would provide faster travel times and more reliable service, thereby improving revenues and demand. Capital funding will be required to upgrade the road bed, eliminate grade-crossings, and modernize signalling systems.

Amtrak intends to look to both the private sector and to federal and state sources, as well as internally, to help fund these critical capital needs. States such as California, Illinois, Michigan and New York continue to provide leadership and foresight with respect to statewide rail passenger service through financial support for many important local projects. Amtrak also will continue to look internally to its various revenue-enhancement programs as a source for self-generated capital. In FY 1990, self-generated capital is projected to exceed $50 million and can be expected to grow during the 1990s. Substantial capital from the private sector also is available, but carries an added interest charge that must be paid with revenues that otherwise could be used to reduce federal operating support.

Clearly, however, making up for deferred capital investment during the 1980s and achievement of Amtrak's goal of eliminating its operating losses will require a federal capital commitment considerably in excess of the level appropriated to Amtrak in recent years. In addition, the willingness of the private sector to lend Amtrak funds for new equipment will depend greatly on the federal government's commitment to share in Amtrak's future.

The 1980s saw federal capital appropriations essentially dry-up: from $221 million in FY 1981 to just $2 million in FY 1986 to some $30 million annually towards the end of the decade. As the following chart illustrates, federal capital support received between FY 1985 and FY 1989 amounted to just $156.4 million, far less than the $815.9 million of depreciation booked in those years. A continuation of this capital starvation would not only make it impossible to continue to decrease our operating loss but would move Amtrak rapidly toward self-liquidation.

COMPARISON - AMTRAK CAPITAL VS. DEPRECIATION

FOR FIVE YEAR PERIOD FY85 - FY89
$ MILLIONS

	FEDERAL CAPITAL GRANT	SELF-GENERATED AMTRAK CAPITAL	TOTAL CAPITAL	DEPRECIATION	TOTAL SHORTFALL
FY85	52.3	30.3	82.6	169.6	87.0
FY86	2.0	28.7	30.7	163.4	132.7
FY87	26.5	38.2	64.7	163.4	98.7
FY88	46.2	30.2	76.4	153.7	77.3
FY89	29.4	40.0	69.4	165.8	96.4
TOTAL	156.4	167.4	323.8	815.9	492.1

New equipment and plant modernization will require capital funding from all sources -- federal, private, state and Amtrak -- of at least $300-$400 million each year during the 1990s, with larger one-time capital investments for a number of years if we are to make the improvements needed for genuine high-speed rail passenger operations in such congested areas as the Northeast Corridor, both north and south of New York, and the Los Angeles-San Diego corridor. Given the present federal financial environment, it seems unlikely that sufficient federal capital support can be provided through general revenues.

For several years, Amtrak has advocated creation of a unified surface transportation trust fund, supported by federal gasoline "user fees," that would provide in a consistent and coordinated manner the federal investment in surface transportation. Both Amtrak's depreciation and its expanding capital needs for the next decade could be met by allocating just a penny -- one cent -- of federal gasoline user-fee revenues to Amtrak. With this relatively modest financial support, Amtrak would be able to provide enhanced conventional and high-speed rail passenger service that would alleviate growing air and highway congestion in many areas of the nation at far less cost and with less adverse environmental impact than the enormously expensive construction of new airports and highways. The result would be an Amtrak, free of dependence on the federal government for operating support, ready and able to meet this nation's transportation needs in the next century.

We look forward to working with Congress this year as it examines the nation's surface transportation infrastructure deficiencies and considers proposals for a more balanced and coordinated national transportation policy. As it does so, Amtrak urges Congress to put aside the traditional mode-specific interests that have produced conflicting, contradictory transportation policies and to recognize the importance to our future of a more farsighted and balanced approach. Intercity rail passenger service has an important role to play in this country's future transportation system; capital funding support from a unified surface transportation trust fund would provide Amtrak with the ability to attain its full potential.

STATEMENT OF
THE NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION
ON TAX POLICY AND THE ENVIRONMENT

The National Rural Electric Cooperative Association (NRECA) is the not-for-profit national service organization representing more than 1,000 of the nation's rural electric systems. These include not-for-profit, consumer-owned cooperatives and public power districts serving in 2,600 of the nation's 3,136 counties, providing central station electric service to more than 25 million rural Americans in 46 states. NRECA is pleased to have this opportunity to submit comments to the Committee on Ways and Means on tax policy related to the environment.

Rural electric systems comprise a unique sector of the electric utility industry:

- Rural electric systems are primarily cooperatives which means they operate on a not-for-profit basis and are subject to democratic control by their member-owners -- the people who purchase electricity from them;

- Rural electric distribution systems sell electricity at the retail level to their consumer-owners. They purchase most of their power from 63 generation and transmission cooperatives (G&Ts), which are cooperatives whose membership is made up of 782 distribution systems out of a total of 930. G&Ts, too, operate on a not-for-profit basis subject to democratic control by their membership;

- 70 percent of the generation capacity of the rural electric systems has been placed into operation during the past ten years -- a period of inflated construction costs, high interest rates, and ever-increasing environmental mandates, resulting in an adverse rate differential, between most co-ops and their neighboring utilities;

- 79 percent of rural electric systems have rates that are higher than their neighboring utilities;

- Collectively, the cooperatives own or have an interest in more than 125 coal-fired steam electric power plants of various sizes, making up more than 80 percent of cooperative generation nationwide. In the aggregate, 44 percent of rural electric cooperative generation uses a flue gas desulfurization (FGD) unit or scrubber, as compared with the utility-wide figure of 20 percent, primarily because much of it was constructed after enactment of the Clean Air Act of 1970.

What follows are recommendations based on policy resolutions evaluated and adopted at the NRECA February Annual Meeting with over 12,000 individuals in attendance.

PAYING FOR A CLEANER ENVIRONMENT

Because of concerns for the environment, Congress has passed significant legislation such as the Clean Water Act and the Clean Air Act. These laws helped set a global standard that takes into consideration the social costs of the use of resources to fuel our economy. The current debate before Congress, a rewriting of the Clean Air Act, once again points the way toward a higher level of environmental consciousness.

Who will pay for this cleaner environment must still be decided. Increasingly stricter environmental requirements led to the use of pollution control equipment which was, and remains, expensive. However, in the past Congress recognized the need to help pay for some of the new mandates. Until the 1986 Tax Reform Act, electric utilities had the ability to mitigate the high cost of environmental controls through various incentives in the Internal Revenue Code.

The ability to use bonds exempt from federal tax was curtailed, as were investment tax credits and accelerated depreciation, when the tax code was re-written in 1986. All of these

incentives enabled providers of electricity to reduce the rate impact on residential and industrial ratepayers of the high costs of environmental clean up.

Once again, utilities are facing large capital investments to comply with a revised Clean Air Act. Cost estimates of the current proposals pending before Congress are approximately $450 million to $600 million per year for the next 20 years.

NRECA supports the restoration of the option, in the Internal Revenue Code, for utilities to have available lower-cost tax-exempt bonds for pollution control equipment. Lower financing costs means smaller cost increases for the nation's electric consumers.

The ability to use tax-exempt bonds for pollution control equipment is especially important to G&Ts. By their very nature, G&Ts are debt financed. They maintain a low level of equity in order to keep their wholesale rates as low as possible. Any reduction in borrowing costs for those G&Ts falling under the acid rain provisions of the Clean Air Act are directly transferred to their consumer-owners.

Additionally, rural electric systems purchase 48 percent of their wholesale power needs, much of which is supplied by coal-fired generation. Tax exempt financing of the additional pollution control equipment mandated by the revised Clean Air Act will also benefit our members as purchasers from other segments of the electric utility industry.

Also, investment tax credits for pollution control equipment and accelerated depreciation on pollution control equipment would ease the financial burden which will be borne by the consumers of electricity in this country. These incentives existed until the Tax Reform Act of 1986 and helped to mitigate the increasing costs of electric generation -- costs which, in many cases, rose due to federal mandates for a cleaner environment.

POLLUTION TAXES

NRECA's membership opposes any taxes or fees on the generation of electric energy or on power plant emissions whether or not the taxes are employed to fund pollution control measures. Such taxes unfairly penalize those organizations which have invested in pollution control by requiring them to pay taxes to subsidize the clean-up of other utilities. In addition, such taxes cause economic distortions throughout the entire economy. Under a pollution tax, some regions of the country would bear a much higher level of taxation than others, simply due to their mix of generation capacity.

While deficit reduction is an admirable goal, and one which the Congress should pursue to ensure the long-term economic health of this country, the budget cannot be balanced on the backs of those entities which generate and provide one of the most vital components of everyday life – electricity. Such a tax would be extremely regressive falling most heavily on those least able to afford it. For these reasons, policies which artificially raise the price of energy, such as increased taxes on energy sources including gasoline, have a disproportionately adverse effect and must be carefully weighed.

TAXATION OF CONSERVATION REBATES

NRECA strongly supports and endorses H.R. 4249, introduced by Representative Barbara Kennelly, which would exclude from consumers' gross income for purposes of federal income tax conservation rebates provided by utilities to consumers.

In February 1989, the Internal Revenue Service issued a technical advice memorandum finding rebates provided by utilities for energy efficiency and conservation equipment taxable. However, at that time the National Energy Conservation Policy Act of 1978 (NECPA), as amended, (42 U.S.C. Section 8217(i)) specifically excluded such incentive payments from a taxpayer's gross income. Thus, there is some question about the ruling for that particular case. The IRS is re-evaluating the issues addressed in that particular statement, and we are hopeful that it will be resolved soon.

However, the pertinent section of NECPA expired on June 30, 1989, leaving no provision in Federal law for the exclusion from tax of payments for conservation rebates. Representative Kennelly's bill would remedy that situation, and NRECA applauds and strongly supports her efforts.

Energy conservation has a significant role to play in the efficient use of our energy resources. However, increased energy efficiency often requires a substantial investment by ratepayers. Rebates from utilities can help defray some of those investments.

Rural electric systems are very active in promoting energy conservation and efficiency. Many cooperatives provide rebates for the purchase of new space conditioning technologies like electric thermal storage units. Many more NRECA members have load management programs which, by changing the time of day during which electricity is used by consumer-members, can help shift peaks, thereby making more efficient use of the existing generating capacity.

More efficient use of resources is in everyone's best interest -- consumers, businesses, utilities and government -- and conservation is one way to implement efficiency. Incentives that spur increased use of conservation technologies should not be objectives in a search for federal revenues.

national water well association
PROVIDING AND PROTECTING GROUND WATER FOR THE WORLD
6375 Riverside Dr./Dublin, OH 43017/(614) 761-1711, Fax No. (614) 761-3446

February 28, 1990

The Honorable Dan Rostenkowski
U.S. House of Representatives
Committee on Ways and Means
1102 Longworth House Office Building
Washington DC 20515

Dear Mr. Rostenkowski:

The National Water Well Association (NWWA) commends the House Ways and Means Committee for its foresight in investigating the use of the federal tax system to improve the environment. We also appreciate the opportunity provided by the Committee to comment on this topic.

NWWA recommends institution of Federal tax credits or other financial incentives for the utilization of ground water heat pump systems for commercial and residential heating and cooling. These systems provide an environmentally sound alternative to the use of fossil fuels. Ground water serves as both a heat source (during the winter) and a heat sink (during the summer). When properly installed and utilized, the environmental impacts of ground water heat pump systems are minimal or non-existent. The two major environmental considerations, thermal alteration of the aquifer and consumptive use of the water, can be mitigated through proper construction and use.

The readily available nature of the ground water resource within the United States also promotes increased energy independence from foreign energy sources. A 1976 study concluded that over 85 percent of the continental United States had sufficient shallow ground water resources to use the ground water heat pump for residential heating and cooling.

We would welcome the opportunity to explore this further with the Committee. Again, thank you for allowing us to submit comments on this important issue.

Very truly yours,

Jay H. Lehr, Ph.D., C.G.W.P.
Executive Director

/er
Enclosure
[THE ENCLOSURE TO THIS LETTER IS BEING RETAINED IN THE COMMITTEE FILES.]

STATEMENT BY NICHOLAS P. KOSKORES, PRESIDENT OF THE NEW ENGLAND COUNCIL, INC., BEFORE THE UNITED STATES HOUSE COMMITTEE ON WAYS AND MEANS
MARCH 6, 1990

Mr. Chairman and Members of the Committee:

My name is Nicholas P. Koskores, and I am President of The New England Council, the nation's oldest regional business group.

I am here today representing over 1,500 New England educators and businessmen, large and small, and from every area of economic activity: from basic manufacturing, to financial services, and cutting edge technologies.

Unique among business groups, The Council, since its founding in 1925, has established a tradition of developing constructive working relationships to promote the New England economy with legislators and policy makers at the state and federal level. The Council has cofounded a number of joint, public-private ventures, including the New England Governors' Conference in 1937, and the New England Congressional delegation in 1972. This year we assisted in the formation of the New England Energy Caucus.

On behalf of The Council, I am pleased to have this opportunity to share with you our views on measures designed to reduce precursors of acid rain that you are considering as amendments to the Clean Air Act.

A number of "acid rain" bills are pending before the U.S. Senate and House of Representatives, including a bill proposed by the Administration and introduced by members of this Subcommittee. All bills have provisions designed to reduce sharply the emission of sulfur dioxide (SO2), principally from electric power plants.

A. Summary of Statement.

In brief, I will make four points in this statement:

1. We oppose a new tax on electricity generation and imports. The most important point is that we strongly oppose proposals in several bills before the Congress that would impose a new Federal tax on electricity to raise revenue that would be used to provide cleanup subsidies to electric utilities that now use low cost, high sulfur coal and that have lagged behind the rest of the nation in reducing sulfur dioxide (SO2) emissions.

   The proposed tax would, of course, be paid by electricity users as a part of their monthly electric bill.

For reasons detailed below, we believe that:

- The proposed tax would be grossly unfair to consumers in the 6 New England states, and in some 30 other states that have low SO2 emissions.

- Faulty claims of "unfair burden" are being made on behalf of the high-SO2-emitting regions that would, under pending bills, be required to make significant SO2 emission reductions.

2. We endorse proposals to allow using the most cost-effective emission reduction strategies. The second point is that we strongly endorse provisions in the President's proposal (S. 1490) which permit utilities to select the most cost-effective means for reducing emissions. We endorse the concepts of "bubbling" and trading of emission allowances. We believe that maximizing flexibility in meeting emission reduction requirements will minimize the cost.

3. We recommend adding incentives to encourage conservation. The third point is that we urge the Congress to include incentives for energy conservation in acid rain legislation. Energy conservation measures are an effective way of reducing adverse environmental effects associated with the nation's steadily increasing demands for energy.

4. We urge avoiding conflicts with the Free Trade Agreement. The final point is that we urge the Congress to avoid actions which would conflict with the recently adopted U.S.-Canada Free Trade Agreement. Several of the pending proposals for a tax on electricity generation and imports would be inconsistent with the provisions of the Free Trade Agreement.

At this point, I would like to reiterate and supply details supporting the above summary points.

B. We strongly oppose proposals to impose a tax on electricity generation and imports to raise revenues to provide subsidies to utilities that must reduce SO2 emissions, because a tax would be unfair to consumers who have already paid to achieve low emissions.

Proposals to tax electricity generation and imports would be very unfair for several reasons explained below.

1. The six states of the New England region have been leaders in requiring reductions of SO2 emissions, and recently enacted laws require further reductions.

For example, in 1985, the total SO2 emissions from all sources in the 6 states accounted for less than 2.6% of the nation's SO2 emissions.

Recently, Massachusetts and New Hampshire enacted laws which require even further reductions in SO2. As a result, all 6 states in the region will be meeting SO2 emission reduction requirements by 1995 that are generally equal to requirements proposed for the year 2000 in bills pending before your Committee.

2. Consumers in New England and in other areas served by utilities that have reduced SO2 emissions have already paid and will continue to pay billions of dollars to achieve low emissions. They should not have to pay others' costs of reducing emissions.

   a. Electricity consumers in New England have already paid hundreds of millions of dollars through their monthly electric bills to achieve low SO2 emissions since cleanup efforts were begun in the 1960's. These costs were incurred as electric utilities switched to high cost, low sulfur fuels and installed pollution control equipment.

      The table attached to this statement compares average fossil fuel costs in 1987 for ten high SO2 emission states with costs for ten states that have low SO2 emissions. This table underscores the fact utility customers in low SO2 emission states are already paying high costs to achieve low emissions.

   b. Further, as indicated earlier, consumers in New England will be paying even more to achieve low emissions as recently enacted state laws require additional emission reductions in the early 1990's.

   c. Consumers in New England will be paying still more as the legislation you are now considering begins to take effect and electric utilities in areas with high emissions increase their use of lower sulfur fuels — such as those used in New England — thereby pushing up the market price for those fuels.

   d. We believe consumers in New England should not have to pay a fourth time through a new Federal tax on electricity that would be used to subsidize utilities in other regions that are using low cost, high sulfur coal as they undertake clean up efforts.

   The people of our region are not alone in having low SO2 emissions and having already paid large amounts to reduce SO2 emissions. Similar claims can be made by most states West of the Mississippi River; by the states of Minnesota, Wisconsin, Michigan, and New York; and by most states along the East and Gulf Coasts.

3. The remaining problems of high SO2 emissions are largely confined to certain utilities in 10 states where high sulfur coal is still widely used.

   According to data issued by the National Acid Precipitation Assessment Program (NAPAP), SO2 emissions totalled 23 million tons in 1985, with 15.5 million tons or 67% of those emissions from coal-fired powerplants.

The National Coal Association (NCA) has done extensive analysis of emissions from coal-fired powerplants (50 MW or more in capacity). According to NCA data for 1987:

- The 10 states with highest SO2 emissions* accounted for 10.4 million tons, or 70%, of all U.S. SO2 emissions from coal-fired plants.
- These same 10 states accounted for only 42.5% of the coal used by U.S. coal-fired power plants -- underscoring the SO2 emission results of their high usage of low cost, high sulfur coal. (All 10 states still allow use of coal containing at least 3.5% sulfur.)

Clearly, some states and utility systems moved aggressively -- some starting in the 1960's -- to reduce SO2 emissions, while others did not. Electricity consumers in areas with low emissions should not now be penalized by having to pay a new Federal tax so that subsidies can be provided to those utilities that must install scrubbers to reduce their SO2 emissions.

4. Electric customers served by utilities using low cost, high sulfur coal without scrubbers pay lower rates than customers of utilities that have reduced emissions.

The Department of Energy (DOE) annually publishes data on typical residential electric bills. This DOE information demonstrates that utilities continuing to use low cost, high sulfur coal without scrubbers have low rates. Rates for those utilities are well below national averages unless the utility also happens to have a high cost or cancelled nuclear power plant.

States and regions served by utilities that have already acted to reduce emissions have been disadvantaged by higher electric bills (to pay for lower sulfur fuels and pollution control equipment) compared to areas served by utilities that have continued to use low cost, high sulfur coal without scrubbers.

Consumers of electricity provided by utilities with low emissions -- individuals, businesses and institutions -- have been disadvantaged compared to customers of utilities with high emissions. Business and industry in regions that have already incurred costs to reduce emissions have endured a competitive disadvantage because they have had to pay more for electricity.

Utilities serving many major cities -- such as Boston, Hartford, New York, Detroit, Chicago, Minneapolis, Denver, Houston, Dallas, New Orleans, Oklahoma City, Phoenix, Salt Lake City, Seattle, San Francisco, Los Angeles and San Diego -- as well as many areas outside cities already have achieved low emissions.

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* Ohio, Indiana, Pennsylvania, West Virginia, Georgia, Missouri, Illinois, Tennessee, Kentucky and Alabama.

Customers of these utilities have incurred billions of dollars of higher costs for low sulfur fuels and pollution control equipment. They should not now be asked to pay a tax so that customers of utilities that will be required to reduce emissions can continue to enjoy low electric bills.

5. The proposed new tax on electric generation would also be very unfair to certain customers within high SO2 emission states.

Some utilities in states with high emissions have already moved aggressively to reduce their emissions. For example, Commonwealth Edison which serves the city of Chicago and, in total, more than half the people of Illinois, has already reduced SO2 emissions from its coal-fired generating plants. Commonwealth Edison customers have had to pay significantly higher costs of low sulfur coal to achieve emission reductions.

Should these same customers in Chicago and eleswhere in the company's service territory now be taxed to provide subsidies that would hold down the electric bills of customers of utilities elsewhere in Illinois who have enjoyed low rates because their electric companies have continued to use low cost, high sulfur coal without scrubbers?

Similar examples can be found in other states with high SO2 emissions.

6. Claims that pending acid rain legislation would unfairly burden certain states and utility systems are incorrect.

Some who have supported the idea of a Federal tax to provide subsidies to high emitting utilities (so-called "cost sharing") have argued that high SO2 emitting utilities would bear an "unfair" clean up burden under the Administration's proposal. They argue that:

- The costs that would be incurred by high emitting states are disproportionate to the states' share of total U.S. emissions.

- The Administration's proposal addresses only emissions from electric utilities and does not include emissions from industrial sources.

Those making arguments of "disproportionate burden" ignore several important facts:

a. First, they ignore the fact that utilities that have already reduced SO2 emissions (and their customers) have, over the past 20 years, incurred billions of dollars of higher cost for low sulfur fuel, pollution control equipment and operating expenses to achieve their low emissions. These past expenditures should not be ignored.

b. Second, the Administration's acid rain proposal (and most others pending in the Congress) focus on high emitting coal-fired generating plants because:

   . These plants account for an overwhelming share of total U.S. SO2 emissions, and

   . Emissions from large SO2 emitting sources can be reduced at a much lower cost per ton than small industrial sources of SO2.

c. Even the low emitting utilities will bear high costs when acid rain legislation takes effect. Utilities with low emissions will face significantly higher cost for lower sulfur fuels because there will be greater competition for those fuels -- particularly from utilities that will be required to make large emission reductions.

d. The states with high SO2 emissions from utilities would not escape significant emission reduction costs or bear a significantly less proportionate burden if industrial sources of SO2 were also addressed by the legislation. Many of the same states have significant emissions from industrial sources. In fact, 9 of 10 states that have highest emissions from utilities are among the top 15 states in SO2 emissions from industrial facilities.

7. <u>The "polluter pays" principle that has been followed since the Clean Air Act was first enacted should be maintained.</u>

Most U.S. programs for reducing pollution of the environment are based on the fundamental principle that the "polluter pays." That is, the owner of a polluting facility and, ultimately, those who benefit from the product or service provided by a polluting facility -- not those affected by the pollution -- should pay the costs of pollution reduction.

Following the "polluter pays" principle helps assure that the social costs of pollution are internalized in the cost of producing the products or services provided by the polluting facilities. The costs are then passed on to customers through the price they pay for those products or services.

Providing subsidies to utilities with high emissions would violate the "polluter pays" principle and remove the cost of pollution reduction from those who benefit from products or services created by the polluting facility.

Imposing a tax on electric generation nationwide to provide subsidies for states with high emissions would penalize electric customers in areas that have already reduced emissions and "reward" utilities that have lagged behind. Deviating from the "polluter pays" principle by taxing all electric customers would set a bad precedent. It would suggest that a polluter should benefit by delaying action to reduce emissions -- or be rewarded for delaying action.

C. We endorse the President's proposal to permit owners and operators of plants that must reduce emissions to select the most cost-effective way of achieving emissions reductions.

An important principle adopted in the President's acid rain proposal is that owners or operators of facilities that must reduce SO2 emissions should be allowed to select the most cost-effective means for reducing emissions from their facilities. We believe this is a critically important concept and urge the Subcommittee to adopt it in the legislation that it reports out.

Freedom of choice in how emissions are reduced would alleviate the cost burden on customers of both high and low emitting utilities. Owners and operators of facilities are in the best position to identify the lowest cost ways to achieve the overall emission reductions for their company and, thus, will be able to meet requirements with the least cost impact on electricity users.

The concept of allowing "bubbling" of emissions across a company's various facilities is also important in achieving emission reduction requirements at lowest cost. We urge you to continue this concept and not adopt unit-by-unit requirements.

In this connection, we note that the recently released description of a bill that will be introduced by Senators Mitchell and Baucus refers to a specific emission limit on oil-fired generating units. Such a unit-by-unit limit would be inconsistent with the freedom of choice and bubbling concepts that are necessary in order to achieve the most cost-effective emission reductions. Specific unit-by-unit limits could also interfere with plans to use natural gas in repowering or converting units now dependent upon foreign oil.

A workable system to allow trading of emission allowances will also be important in holding down the costs of total nationwide emission reductions. We also urge that trading not be encumbered by complex processes that inhibit its use.

We are aware that the Administration's selection of 1985 as the base year for determining emission reduction requirements imposes unrealistic requirements for certain facilities. We urge you to consider carefully the impact of the Administration's proposal and address the problems that it presents.

D. We urge that incentives for energy conservation be included in acid rain legislation.

Experience in New England and elsewhere has demonstrated that energy conservation can be a very cost-effective way of simultaneously meeting energy requirements and reducing the adverse effects on the environment that would otherwise occur as the demand for electricity grows.

Switching to a lower sulfur fuel will result in reduced SO2 emissions. Installing a scrubber will also reduce SO2 emissions but it will also result in greater use of energy and water and result in creation of more waste products. Energy conservation, on the other hand, can result in reduced emissions of SO2, nitrogen oxide (NOx) and carbon dioxide (CO2); reduced use of fresh water; and various other benefits.

We believe that acid rain legislation should provide specific incentives to encourage energy conservation and would urge you to consider doing so.

E. We urge that conflicts be avoided between the recently adopted U.S.-Canada Free Trade Agreement and proposals in acid rain bills to tax electricity imports.

As you are well aware, the governments of the U.S. and Canada recently adopted the U.S.-Canada Free Trade Agreement. We strongly supported that action and believe the Agreement will provide substantial economic benefits to both countries in the years ahead.

We would note, however, that proposals in several pending acid rain bills to tax electricity imports would be inconsistent with commitments made by the U.S. Government when it adopted the Agreement. More specifically, several pending bills would:

- Impose a tax on electricity generated in the U.S. using fossil fuels (oil, gas and coal);
- Exempt from a tax electricity generated in the U.S. using nuclear or hydro power; and
- Impose a tax on all electricity imported into the U.S., including that generated by nuclear and hydro power.

We understand that these tax proposals would be considered discriminatory and thus inconsistent with the Free Trade Agreement. This problem could best be avoided by not attempting to impose any tax on electric generation.

G. Conclusion.

In closing, I would note that President Bush specifically preserved the "polluter pays" principle in the legislative proposal that he submitted. He rejected the idea of imposing a new tax to provide subsidies to utilities that must achieve emission reductions. The Administrator of the Environmental Protection Agency has affirmed that the President remains opposed to a tax and subsidy such as that proposed by some members of Congress.

Thank you for the opportunity to present this statement.

Attachment #1

COMPARISON OF ELECTRIC UTILITIES' AVERAGE FOSSIL FUEL IN 10 STATES HAVING HIGH SO2 EMISSIONS WITH 10 STATES HAVING RELATIVELY LOW SO2 EMISSIONS

As indicated on page 3, utilities in high SO2 emissions states tend to have low fossil fuel costs while utilities in low SO2 emission states have high costs because they use low sulfur fuels.

The table below shows average fossil fuel (coal, oil and gas) costs in 1987 for the ten states with highest SO2 emissions from coal-fired power plants. For comparison, the table also shows ten other states that have high average fossil fuel costs and low SO2 emissions. These fuel costs have an important effect in determining whether customers' monthly electric bills are high or low.

State	Avg. 1987 Delivered Cost of Fossil Fuels ($/MMBtu)	State	Avg. 1987 Delivered Cost of Fossil Fuels ($/MMBtu)
Ohio	1.566	California	2.511
Indiana	1.471	Connecticut	2.816
Pennsylvania	1.543	New York	2.464
West Virginia	1.431	New Jersey	2.409
Georgia	1.798	Florida	2.224
Missouri	1.422	Massachusetts	2.317
Illinois	2.069*	Maine	2.937
Tennessee	1.371	New Hampshire	2.203
Kentucky	1.264	Oklahoma	2.057
Alabama	1.929	Texas	1.804

* Illinois has relatively high average fossil fuel costs because its largest utility, serving over half the State's population, uses high cost, low sulfur coal and has low SO2 emissions.

ORANGE COUNTY TRANSIT DISTRICT

Board Members
Roger R. Stanton
Chairman
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Vice Chairman
William E. Farris
Director
Don R. Roth
Director
John Erskine
Director

James P. Reichert
General Manager

A STATEMENT FOR THE RECORD OF HEARINGS BEFORE
THE WAYS AND MEANS COMMITTEE, U.S. HOUSE OF REPRESENTATIVES,
HELD MARCH 6 and 7, 1990

By
James P. Reichert
General Manager, Orange County Transit District

The Orange County Transit District requests your support of exemptions from the federal tax on commute-to-work benefits. The Orange County Transit District (OCTD) is the organization responsible for administering the ridesharing program in Orange County. The current federal tax disincentive adds to the traffic congestion and unhealthful air quality in our urban centers.

Currently, federal tax policy does not exempt employee commute benefits, such as employer-provided vanpool/buspool allowances or mass-transit fare subsidies (except in the case of the latter, for $15.00 or less) from these employees' gross income. Because these transportation allowances are not defined to be working condition fringe benefits, they are fully taxable to the employee.

This situation is not consistent with the well established federal goals for clean air and increased urban mobility. In addition, it has been OCTD's experience that the potential tax disincentives to the employee may actually discourage many corporations from offering incentive programs that will encourage ridesharing.

Yet, at the same time, the federal policy continues to indirectly subsidize employee parking, and thus discourage ridesharing, by not taxing it at its fair market value. In order to make ridesharing competitive with solo-driving, any company-provided vanpool or transit fare subsidies must be treated similarly to other working condition fringe benefits, such as parking, and not taxed.

The OCTD urges you to support all federal legislative efforts to provide reasonable federal tax exemptions for vanpools and transit passes.

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PMAA
PETROLEUM MARKETERS ASSOCIATION OF AMERICA

March 15, 1990

The Honorable Dan Rostenkowski
Chairman
Committee on Ways and Means
1102 LHOB
Washington, D.C. 20515

Dear Mr. Chairman:

The House Committee on Ways and Means is currently investigating possible revisions to the Federal tax system as a means to achieve long term environmental policy. Included in the list of those tax provisions under review are the Leaking Underground Storage Tank (LUST) Trust Fund and excise taxes on motor fuels.

The issue of whether and how the tax code should be amended to influence taxpayer behavior in the environmental area is of great concern to the Petroleum Marketers Association of America (PMAA). By virtue of its status as a federation of 44 state and regional trade associations, PMAA represents more than 10,000 independent petroleum marketers who sell more than 50 percent of the motor fuels and 75 percent of the heating fuels sold in the United States. Eighty-nine percent of PMAA's marketer members are classified as small businesses under the Small Business Administration's loan size standards.

PMAA believes that, as a general rule, the federal tax code can be utilized to achieve national environmental policy goals. The Lust Trust Fund is a good example of the practical effects of such a policy.

THE LUST TRUST FUND

Established in 1986 as part of the Superfund Revenue Act, the LUST Trust Fund was specifically designed by the Congress to provide for cleanup and related costs associated with releases from petroleum underground storage tanks (USTs), under certain limited and specifically defined conditions. The LUST Trust Fund currently is funded by a tax of 0.1 cent per gallon imposed on gasoline, diesel fuel and special motor fuels.

Much has transpired in the three years since the LUST Trust Fund became effective. The Environmental Protection Agency (EPA) has promulgated regulations to establish new technical standards for USTs as well as financial responsibility requirements. Petroleum marketers throughout the country are struggling to comply with these requirements, which are phased in over time. However, due in part to (1) the difficulty in obtaining reasonably priced pollution liability insurance (PLI), (2) the current status of the insurance market, in which two of the major providers of PLI have recently significantly curtailed coverage, (3) the lack of EPA approved and operational state trust funds to provide the necessary coverage and (4) the increasing reluctance of lending institutions to make UST-related loans, the national environmental goal of protecting groundwater from UST leaks is not able to proceed as quickly as the Congress initially envisioned. (Attachment 2 contains a detailed explanation of the above-listed factors and their impact on both the UST program and petroleum marketers.)

To address and resolve these problems, PMAA is supporting a comprehensive program to revise portions of the regulations and statutes underlying the UST program. The program includes, among other things, delaying the financial responsibility deadlines, clarifying lender liability issues and expanding the purposes for which monies generated pursuant to the LUST tax can be spent. One element of this program has already come to pass. On March 15, 1990 the EPA announced that it would delay for one year the financial responsibility deadlines for Categories III (petroleum firms owning 13-99 USTs) and IV (petroleum firms owning 12 or fewer tanks, and non-petroleum firms with a net worth of less than $20 million, including local governments) to afford the states and the insurance market additional time to stabilize. We now have additional time to attempt to achieve the other components of our program, in which amendments to the tax code play an important part.

The tax code can be used to further environmental policy in the UST area by amending the LUST tax in several important ways. PMAA believes that, as part of its environmental review, the House Committee on Ways and Means should consider taking the following action:

o Revise Section 4081 (d) (2) of the Code to extend the tax at its current financing rate of 0.1 cent per gallon for an additional period, perhaps three years.

Explanation: The LUST tax is scheduled to expire after December 31, 1991, or whenever the fund reaches its cap of $500 million, whichever is sooner. PMAA estimates that the LUST Trust Fund will reach the $500 million level by July or August, 1990. Revising the expiration date and deleting the cap of $500 million would allow additional monies to be collected. This would not be a "new tax", but an extension of a tax already imposed.

o Revise Section 9508 (c) (1) of the Code in accordance with proposed revisions to Section 9003 (h) of the Solid Waste Disposal Act, which would expand the list of purposes for which Lust Trust Fund revenues could be spent to include EPA-approved State programs. This would allow the monies generated by the LUST tax extension in excess of the $500 million level to be directed to the States, which could use the revenues to assure the proper capitalization their EPA-approved trust funds, to create loan assistance programs and for other UST related purposes.

Explanation: In order to be eligible for these funds, the State would be required to have an EPA-approved program in place. Once the EPA approved the fund and certified its establishment to the Department of the Treasury, funds could then be allocated to the states on a formula basis. The formula could be based on any of the following criteria: motor fuels sales, population or tank registrations. Since LUST tax revenues would only be given to States with EPA-approved trust funds in place, this would serve both as a political and economic incentive to establish such funds.

The end result would be to assure that adequate revenues are available to pay the costs of clean up and to finance low interest loan programs to help the smallest marketers implement the necessary UST upgrades and replacements required by EPA. Once sites are cleaned up and new or upgraded equipment is in place, reasonably priced pollution liability insurance is likely to become readily available once again. In this way, national environmental policy, as set forth in the Hazardous and Solid Waste Amendments of 1984 and the Superfund Revenue Act of 1987, would be furthered.

MOTOR FUELS EXCISE TAXES

Another area of the tax code under consideration as a means to influence taxpayer behavior are those sections that impose excise taxes on gasoline, diesel fuel, and special motor fuels. A tax of 9 cents per gallon is imposed on gasoline and special motor fuels and a tax of 15 cents per gallon is imposed on diesel fuel used in highway vehicles. Revenues from these taxes are deposited in the Highway Trust Fund.

PMAA is strongly opposed to the concept of increasing excise taxes on motor fuels to reduce air pollution. We believe that legislation to amend the Clean Air Act currently under consideration by the Congress is the appropriate way to address this concern. The negative economic consequences resulting from an increase in the excise tax on motor fuels far outweigh any benefits that might accrue from such an action.

In determining the consequences of an increase in the excise tax on motor fuels, it is instructive to examine the effect of a modest 10 cents per gallon increase in the gasoline excise tax. According to independent estimates developed by the U. S. Department of Energy and Wharton Econometric Forecasting Associates, a 10 cents increase would have the following effect on the nation's economy:

o GNP would decrease by nearly $10 billion in the first year, and a total of $45 billion over five years;

o Unemployment would increase by 260,000 in the first two years;

o Inflation would increase by an annual 0.3 percent, causing interest rates to rise;

o Personal savings would decline 3 percent as a result of declining personal income;

o Industrial activity would be depressed, particularly in auto production (down 1.3 percent), housing construction (down 0.9 percent), and petroleum refining (down 1.2 percent);

o The tax would fall disproportionately upon lowest income motorists, for whom gasoline expenditures amount to 17 percent of total income, roughly seven times that of the highest income drivers.

As stated previously, the federal excise tax on gasoline is currently 9 cents per gallon. Consumers pay an additional 7.5 to 22.3 cents per gallon in state and local taxes. All told, gasoline taxes average 24 percent of the retail price of gasoline, making it one of the most heavily taxed commodities in the nation. Current excise taxes on gasoline match the price of the fuel with the true cost of its use on society.

In view of the above, PMAA believes that increasing the excise tax on motor fuels to reduce air pollution would be strongly inadvisable.

Finally, while other tax code alternatives to reducing air pollution exist, many of these alternatives also have negative and regressive consequences. For example, some have recommended the imposition of a tax on older cars as a way to address this problem. However, while approximately 10 percent of the motor vehicle fleet causes 50 percent of the emissions which are precursors to air pollution, according to published reports, such a tax would again fall most heavily upon the nation's lowest income drivers. As a result, we would not recommend the adoption of such a proposal.

PMAA appreciates this opportunity to submit its comments into the record of the House Committee on Ways and Means hearings on Federal tax policy issues relating to the environment.

Very truly yours,

Barbara J. Faulkner

Barbara J. Faulkner
Vice President for Policy
and General Counsel

[THE ATTACHMENTS TO THIS LETTER WILL BE MAINTAINED IN THE COMMITTEE FILES.]

STATEMENT TO THE COMMITTEE ON WAYS AND MEANS
U.S. HOUSE OF REPRESENTATIVES

BY ROBERT T. DENNIS, PRESIDENT,
THE PIEDMONT ENVIRONMENTAL COUNCIL

March 16, 1990

Mr. Chairman and Committee Members:

The Piedmont Environmental Council (PEC) is a regional organization serving nine Virginia counties lying for the most part along the east slope of the Blue Ridge -- west of, but directly impacted by growth pressures from, the Northern Virginia/I-95 urban corridor. PEC was established in 1972 to preserve the essential rural quality and pastoral landscape of our area. Most of our members own productive farms and woodlands. We are increasingly concerned about the growing role of the Federal inheritance tax in the forced conversion of rural family lands to urban uses in areas near major growth centers and corridors.

We are pleased and encouraged that members of Congress have introduced legislation, including Congressman Schulze's H.R. 2336 and other bills, to address this serious problem. We hope we can be helpful to this Committee as you consider and perfect such legislation.

To summarize our position: we are deeply concerned that current federal estate tax provisions deter voluntary protection of farmland, wetlands, woodlands and wildlife habitat. Conservation easements provide a vehicle through which private landowners can permanently protect our natural resources, but inheritance tax provisions are beginning to act as a disincentive to such voluntary action, particularly along the urban fringe.

Over the last 10-15 years, and particularly since the middle 1980's, PEC has vigorously promoted voluntary landowner action to preserve farmland and the rural landscape, working primarily with programs and incentives made available by our State and Federal governments. PEC's efforts were recognized by President Reagan's Commission on Americans Outdoors, and it appears to us that current national policy depends heavily upon the voluntary action of individual citizens and families to protect the public values of private lands in general, and of extensive productive rural landscape units in particular. In PEC's nine counties, approximately 375,000 acres -- one-third the area of George Washington National Forest -- have been protected for continued rural use at least in the short-term, primarily by voluntary action of private landowners through placement of property in Agricultural and Forestal Districts or under conservation easement.

Our preferred land conservation tool is the conservation easement in perpetuity. In our area, such easements are held in most cases by the Commonwealth of Virginia, but in some instances by local government or the National Park Service. In our nine counties more than 56,000 acres -- 30% the area of Shenandoah National Park -- are now dedicated to rural use in perpetuity by conservation easements voluntarily donated by private owners.

Previous acts of Congress have established and defined the public values of such easements, and have offered as well income tax incentives for donations of conservation easements that serve the public interest. Now, PEC respectfully requests this Committee to assure that the Federal inheritance tax will not impair what is now encouraged by income tax incentives for land preservation, and that the inheritance tax will not serve to penalize families who have acted voluntarily to protect in perpetuity the public values of their lands.

We have seen in our area (particularly in Loudoun County) in recent years the forced sale of several family farms simply in order to pay the Federal inheritance tax. Those farms have not been sold to other farmers; they have been sold for small lot subdivisions that impact severely upon adjacent farms. Perhaps this is the fault of poor estate planning, perhaps of rapidly escalating land prices, perhaps of both. But the result is inappropriate land use change.

PEC sees what is coming. We see down the road to the time when family lands in our area -- voluntarily protected by conservation easements held by public agencies in the public interest -- will be so valued as to force their sale at the time of inheritance.

Lands already protected by easements will of course remain protected, but we fear that interest in our public easement programs will diminish -- because others can also see down the road. They can see a disincentive to protecting land. They can see this: where a conservation easement denies future owners the right to divide property -- and thereby create smaller parcels which can be sold to pay estate taxes -- but leaves enough residual value in the estate of the donor to trigger substantial estate tax, those who inherit illiquid estates may be forced to sell the entire landholding to pay taxes. Anticipation of this consequence is now a minor but growing deterrent to the donation of conservation easements.

The potential problem of being caught between a restrictive easement and substantial estate tax attributable to land subject to the easement is best exemplified by donors of easements to the National Park Service, whose gifts provide protective buffers for national parks. These gifts, which provide significant public benefits, could tie the hands of donors' families so that sales in order to pay estate taxes are forced. Clearly, for the Federal Government to thus penalize the generosity of a donor to a Federal agency runs counter to the national public interest.

Conservation easements are unique gifts. They convey a significant benefit to the public. However, it is the quality of the land subject to the easement, the location of that land, and its stewardship, which define the extent of the benefit to the public. These factors also contribute significantly to the value of the land in the hands of the donor's family. It seems particularly unfair that estate taxes resulting from the very factors which make the easement most valuable to the public might force the donor's family to relinquish its interest in the land in order to pay those taxes.

There needs to be a reconciliation of the public policy of encouraging the donation of conservation easements, which is certainly in the public interest, and the estate tax effect of discouraging the donaton of conservation easements in those areas where the public would most benefit from them.

The complexity and uncertainty of the few existing tax provisions designed to protect family farms and encourage easement donations, particularly in contrast to the straightforward and powerful tax incentives for development, make tax incentives for land conservation wholly inadequate to the task. As a result, current and future generations of Americans will pay an increasing environmental and social cost (which nearly always translates into increased public expenditures) from the ill-considered, ill-planned, wholesale private conversion of rural land into concrete and asphalt. In comparison to these costs, the cost of clarifying and enhancing the existing tax incentives for voluntary land conservation would be minimal.

PEC is working on an answer to the problem we have outlined here. A detailed proposal will be submitted in the future.

Polyisocyanurate Insulation Manufacturers Association

March 28, 1990

The Honorable Dan Rostenkowski
Chairman
Ways and Means Committee
U.S. House of Representatives
1102 Longworth House Office Building
Washington, D.C. 20515

Dear Mr. Chairman:

On behalf of the Polyisocyanurate Insulation Manufacturers Association ("PIMA"), I appreciate the opportunity to provide these comments for the hearing record regarding how the Federal tax system can be used to improve our environment.

PIMA, which consists of associated manufacturers of energy efficient polyisocyanurate insulation board and chemical suppliers [and which has recently merged with the Energy Efficient Insulation Manufacturers ("EEIM")], has played an active role in the tax and environmental regulatory issues associated with CFCs. Our member companies worked closely with the Committee and staff last fall when the Ozone Depleting Chemical ("ODC") tax was developed and adopted by Congress.

The Committee can benefit from the successful experience in drafting the ODC tax as it moves forward on other tax proposals to protect the environment. We believe that the ODC tax adopted last fall reflects a considered and thoughtful balancing of several different and, equally important, policy objectives. As the Committee considers how the tax code can be used to protect the environment in the future, it should look to this experience with the ODC tax to derive its guiding principles.

First, any such tax must address a clear environmental goal. The ODC tax was designed, interalia to encourage (i) the reduction in the use of ODCs, (ii) the development of substitutes for ODCs, and (iii) greater recycling of ODCs. The initial indications are that the tax is working to encourage industries to critically examine methods to reduce their use of ODCs and is serving as an impetus for recycling activities.

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Second, in developing a tax, consideration must be made of possible unintended environmental consequences. This might have been the case had energy efficient rigid foam insulation board been driven from the market without an adequate substitute being available. This would have resulted in a significant increase in reliance on fossil fuels with the potential to exacerbate emissions of greenhouse gases, contributing to global warming and acid rain. Further, more than 50 percent of all rigid polyiso insulation board uses raw materials which have been derived from waste plastic bottles, and X-ray and lithographic film. This use removes 20-30 million pounds of waste plastic annually from the solid wasted stream and converts it to energy-efficient insulation. In addition, our product represents the largest single use of colored plastic bottle scrap, the most difficult to recycle. These long-term environmental benefits would have been lost had rigid foam insulation board manufacturers been driven from the market.

Third, as EPA Administrator Reilly testified before the Senate Environment and Public Works Committee in March 1989, environmental taxes--such as the ODC tax--should not result in decreased energy efficiency. Energy conservation and environmental protection must be viewed as related issues. As makers of the most energy efficient insulation products on the market, we wholeheartedly support the Committee's recognition of the importance of energy conservation in the drafting of the ODC tax last year. The ODC tax preserves the energy conservation benefits of rigid foam insulation which would have been lost had our product been taxed out of the marketplace.

In conclusion, PIMA commends the Committee for the approach it took in developing the ODC tax last year and encourages the Committee to incorporate the principles it employed in developing ODC to ensure that any future proposals are equitable and effective. PIMA looks forward to working with the Committee and staff in the future to achieve these objectives.

Sincerely,

Lorraine M. Aulisio
President
Polyisocyaurate Insulation
Manufacturers Association

Public Securities Association
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Washington, D.C. 20005
(202) 898-9390

PSA

STATEMENT OF THE PUBLIC SECURITIES ASSOCIATION

TO THE HOUSE COMMITTEE ON WAYS AND MEANS

ON ENVIRONMENTAL TAX POLICY

MARCH 19, 1990

The Public Securities Association (PSA) welcomes the opportunity to comment on environmental tax issues. PSA is the international trade association of banks and brokerage firms that trade and underwrite state and local government securities, U.S. government and federal agency securities, mortage-backed securities, and money market instruments. PSA's interest in environmental tax laws relates to the ability of state and local governments to finance their environmental needs with tax-exempt municipal bonds.

State and local governments play a large role in maintaining a clean environment throughout the country. One of their primary financing vehicles for environmental projects is the tax-exempt municipal bond. In 1989, for example, states and localities issued $10.5 billion of bonds for water and sewer projects and another $2.8 billion for solid waste or resource recovery projects. A table attached to this statement lists bond financing of environmental projects since 1973. Looking to the future, the state and local role in financing environmental projects will only grow more important as the nation comes to grips with its environmental problems, particularly since the Federal government seems to lack resources for large environmental commitments. States and localities will have to rely on tax-exempt bonds to finance large environmental projects.

In recent years, Federal policy has restricted the ability of state and local governments to use tax-exempt bonds to finance their environmental needs. The Tax Reform Act of 1986 disallows tax-exempt financing for a project if more than 10% of the bond proceeds benefit a private party and if more than 10% of the debt service on the bonds is backed by a private party. Prior to 1986, the applicable percentage was 25%. Since environmental projects

by their very nature often involve the private sector, these tighter limits on private use reduce state and local flexibility in designing solutions to their environmental problems. Furthermore, prior to 1986, pollution control projects, in recognition of the important public need they served, were eligible for tax-exempt finance even if the projects did not satisfy private use rules. The Tax Reform Act of 1986 eliminated this exception for pollution control bonds, further restricting state and local flexibility. Finally, although sewage, solid waste, and hazardous waste facilities have retained their eligibility for tax-exempt finance regardless of the private use rules, these projects (except for governmentally-owned solid waste facilities) have been subject to increasingly restrictive annual state volume caps since 1984. As a result, these projects must compete with other public projects for volume cap allocation.

Besides these direct limits on environmental projects, tax policy with respect to municipal bonds has sometimes had inadvertent, but nonetheless important, consequences for environmental policy. Proposed restrictions on bond pools imposed in 1988, for example, would have frustrated Congressional policy in the Clean Water Act Reauthorization to encourage the use of state revolving funds to help finance clean water programs. Through some patient work on the part of EPA, the bond community, and the tax writing committees most of these problems appear to have been resolved. This episode, however, demonstrates how limits on state and local bond financing can frustrate federal policy goals, sometimes in unexpected ways.

Finally, federal policy with respect to tax-exempt interest has weakened demand for municipal bonds generally and increased the cost to state and local governments of financing important public projects, environmental projects among them. Two limits on demand are important to point out.

First, the Tax Reform Act of 1986 eliminated the ability of commercial banks to deduct a portion of their interest cost of carrying municipal bonds. As a result, commercial banks, which were once the largest corporate investor in municipal bonds, disinvested some $90 billion worth of bonds between 1986 and the third quarter of 1989.

Second, the Tax Reform Act subjected all tax-exempt bond interest to the alternative minimum tax (AMT) in one way or another. Interest on so-called private-activity bonds (i.e., bonds that finance projects that fail the private use rules, but are granted an exception) is subject to the full corporate and individual AMT. As a result, private-activity bonds cost state and local governments between 25 and 30 basis points (0.25 and 0.3 percentage points) in added interest costs. Private-activity bonds include bonds issued to finance sewage, solid waste, and hazardous waste disposal facilities. The 1986 Tax Act also subjected one-half of the interest on public purpose bonds to the corporate AMT. Beginning in 1990, three quarters of the interest on public purpose bonds is subject to the AMT. This means that

corporations subject to the AMT effectively pay a 15% tax on "tax-exempt" municipal interest (20% AMT rate times 15% of interest). The increase in the AMT has a large effect on property and casualty insurance companies, which have replaced banks as the largest corporate investor as banks have disinvested. Many analysts believe that P&Cs, as a group, will not be net purchasers of bonds in 1990. The combined effects of the AMT and the loss of bank deductibility have served to sharply reduce and perhaps eliminate new P&C and bank demand for municipal bonds, leaving the market with only one viable sector of demand -- individuals. Although individuals have been a mainstay of the bond market in the late 1980s, they are traditionally skittish investors. Moreover, a market with only one source of demand, in this case individuals, is extremely vulnerable to economic circumstances that affect that sector.

In sum, federal tax policy with respect to tax-exempt interest has served to weaken corporate demand for municipal bonds and concentrate demand in the individual sector. Although federal policy in this respect does not appear to be aimed in any way at state and local governments, the effect is to increase the cost of borrowing for states and localities. This affects the financing of all public projects, including environmental ones. Furthermore, the application of the AMT to private activity bonds increases the cost of financing sewage, solid waste, and hazardous waste facilities in a direct and measurable way.

As the nation confronts its extensive environmental problems, states and localities will have to play a large role in designing and financing effective solutions. Federal policy with respect to tax-exempt bonds should be sensitive to its effects on important national environmental priorities. In this regard, PSA commends Senators Domenici and Boren, who have introduced a bill to remove a number of existing restrictions on the financing of certain environmental projects with tax-exempt bonds. PSA supports the Domenici-Boren initiative and hopes that it can serve as a starting point for federal policy on municipal finance with respect to environmental projects.

Once again, PSA appreciates the opportunity to testify with respect to environmental tax policy and urges the Committee, in its deliberations on environmental policy, to consider the importance of state and local tax-exempt financing.

0439M

MUNICIPAL BOND ISSUES

FOR ENVIRONMENTAL PROJECTS

1973-1989

Tax-Exempt: New Capital ($ Millions)

	Sanitation	Solid Waste	Pollution Control	Water & Sewer	Total
1973	NA	NA	NA	NA	NA
1974	NA	NA	NA	NA	NA
1975	NA	NA	NA	NA	NA
1976	NA	NA	NA	NA	NA
1977	NA	NA	409.9	3,324.2	3734.1
1978	NA	NA	451.0	3,263.9	3,714.9
1979	NA	NA	701.9	3,159.6	3,861.5
1980	NA	NA	569.4	2,960.3	3,529.8
1981	NA	NA	109.2	2,851.7	2,960.9
1982	46.9	NA	4,275.1	2,936.0	7,359.7
1983	38.4	725.0	2,582.2	2,334.2	5,679.8
1984	88.5	4,201.7	7,727.5	3,501.4	15,519.1
1985	102.5	3,490.5	7,755.1	5,245.9	16,594.0
1986	376.2	1,876.6	2,012.5	5,826.1	10,091.4
1987	91.9	1,290.0	1,628.7	5,559.0	8,569.6
1988	139.4	1,700.2	817.7	5,825.4	8,482.6
1989	57.5	1,794.5	886.4	6,575.1	9,313.5

Tax-Exempt: Refunding ($ Millions)

	Sanitation	Solid Waste	Pollution Control	Water & Sewer	Total
1973	0.0	0.0	2,093.5	2,296.1	4,389.6
1974	0.0	0.0	2,179.0	2,120.1	4,299.1
1975	0.0	0.0	2,526.0	2,461.7	4,987.7
1976	0.0	0.0	2,664.4	3,307.6	5,971.9
1977	0.0	0.0	3,458.3	1,134.9	4,593.2
1978	0.0	0.0	3,031.3	1,206.1	4,237.4
1979	0.0	0.0	2,189.8	575.0	2,764.8
1980	0.0	0.0	2,310.1	511.7	2,821.7
1981	0.0	0.0	4,245.8	221.6	4,467.4
1982	8.0	NA	835.9	438.6	1,274.5
1983	0.0	58.9	1,121.7	2,107.6	3,288.3
1984	29.2	182.0	2,263.8	3,036.5	5,511.4
1985	71.8	102.5	2,692.4	7,993.9	10,860.6
1986	30.3	226.6	1,021.0	8,595.8	9,873.7
1987	139.6	18.2	1,655.5	3,580.1	5,393.4
1988	45.4	817.5	2,401.4	3,428.2	6,692.5
1989	23.1	701.5	1,282.4	3,745.5	5,752.5

MUNICIPAL BOND ISSUES

FOR ENVIRONMENTAL PROJECTS

1973-1989

All Tax-Exempt ($ Millions)

	Sanitation	Solid Waste	Pollution Control	Water & Sewer	Total
1973	NA	NA	2,093.5	2,296.1	4,389.6
1974	NA	NA	2,179.0	2,120.1	4,299.1
1975	NA	NA	2,526.0	2,461.7	4,987.7
1976	NA	NA	2,664.4	3,307.6	5,971.9
1977	NA	NA	3,868.1	4,459.9	8,327.3
1978	NA	NA	3,482.4	4,469.9	7,952.3
1979	NA	NA	2,891.7	3,734.6	6,626.3
1980	NA	NA	2,879.5	3,472.0	6,351.5
1981	NA	NA	4,355.0	3,073.3	7,428.3
1982	54.9	101.7	5,111.0	3,374.6	8,634.2
1983	38.4	783.9	3,703.9	4,441.8	8,968.1
1984	117.7	4,383.7	9,991.3	6,537.9	21,030.5
1985	174.3	3,593.0	10,447.5	13,239.8	27,454.6
1986	406.3	2,103.2	3,033.5	14,421.9	19,965.1
1987	231.5	1,308.2	3,284.2	9,139.1	13,963.0
1988	184.8	2,517.7	3,219.1	9,253.6	15,175.1
1989	80.5	2,496.0	2,168.9	10,320.6	15,066.0

Taxable ($ Millions)

	Sanitation	Solid Waste	Pollution Control	Water & Sewer	Total
1986	0.0	191.2	58.0	10.6	259.8
1987	0.0	0.0	0.0	58.9	58.9
1988	2.7	159.6	4.2	40.7	207.2
1989	0.0	374.1	0.0	93.1	467.2

TESTIMONY OF J. WAYNE LEONARD
VICE PRESIDENT AND CHIEF FINANCIAL OFFICER
PUBLIC SERVICE COMPANY OF INDIANA, INC.

Mr. Chairman, Members of the Committee, my name is Wayne Leonard and I am Vice President and Chief Financial Officer of Public Service Indiana (PSI). I would like to thank and commend you for the opportunity to testify in these proceedings on the need to restore various tax incentives to protect both our ratepayers and the environment.

Public Service Indiana is the largest electric utility in Indiana and we serve more than 586,000 customers and serve approximately two million people in central and southern Indiana.

Over 98% of our electricity is generated from coal-burning facilities. We are the largest coal consumer in Indiana. Our plants burn about 12 million tons of Illinois basin coal each year.

PSI fully supports the efforts of Congress to clean the environment and mitigate the effects of acid rain through the reduction of SO2 and NOx emissions. In supporting that effort, PSI has taken a step forward and has separated itself from many others in our industry by stating a willingness to do its share to clean the air. While these Clean Air Act Amendments are likely the most costly environmental legislation ever proposed, the end results - a cleaner, healthier, safer environment is a worthy goal.

While PSI is willing to do its share in ensuring our citizens clean air, proposals in both houses of Congress target both Indiana and PSI's facilities with a greater share of the 10 million ton reduction from 1980 levels than our contribution to the total. Indiana contributed about 7.5% of the nation's 1980 SO2 emissions and would be required to make at least 11.5% of the reductions.

The purpose of my testimony is to encourage this committee to reestablish tax incentives that would reduce the otherwise substantial financing requirements that will unduly burden those companies and their ratepayers required under present proposals to reduce SO2 emissions. PSI has estimated that over $880 million (90$) of capital expenditures will be required to meet the acid rain provisions of the amendments. Specifically I ask this committee to establish the following:

- An environmental tax credit equal to 20% of the capital investment which is made in order to comply with the acid rain requirements,

- The availability of tax exempt financing for facilities installed to comply with the proposed legislation, and

- A special 5 year depreciation class for those same facilities.

These tax incentives that I am recommending be restored are not new. They were all available and effectively used during implementation of the original Clean Air Act and during implementation of the 1977 amendments. These tax incentives can serve to mitigate the ratepayer impacts of the substantial capital requirements for compliance with the mandated requirements of the proposed amendments. They will also give utilities who are borderline between scrubbing and switching fuels or who might not otherwise be able to raise the needed capital an incentive to comply by utilizing available pollution control equipment.

This added incentive to use control technology (scrubbers) will result in saving vital coal mining and related jobs in already depressed areas. In addition, the rate relief will help our country's industrial base, located heavily in the targeted Midwestern region, to maintain its competitive advantage in marketing its products in world markets.

An important element in considering these tax incentives must be not only the considerable tax revenues that will be generated from the large scale construction program required to meet federal law but also the potentially lost revenue if the impacts of these programs results in lost jobs and the erosion of the competitiveness of our basic manufacturing industries located in the Midwest.

Both the environment and the nation's long term energy strategy will be winners on restoration of the tax incentives. Greater use of control technology will result in continued use of the nation's abundant high and medium sulfur coal supplies while conserving the limited supply of low sulfur coal for alternate uses. These low sulfur coal resources could be more cost effectively used in applications requiring smaller volumes such as industrial, municipal utility, hospital, university and other like boilers.

Normally market forces with time will optimize for companies like PSI the decision to use scrubbing or to use the alternative low sulfur coal option. My concern is that both the timing and the stringency of compliance required by the proposed amendments will not allow sufficient time for the efficiency of the market to work. Potentially this could force sub-optimal compliance choices that reflect only short-term least cost options, like low sulfur coal, strictly driven by strategies to mitigate rate shock or avoid large financing requirements for the Company.

In essence, this is the very problem the Administration's proposal sought to avoid by targeting large utility plants for "over" compliance while letting smaller industrial sources avoid cleanup. The thought was that more economic cleanup could be achieved by large sources using economies of scale available through such strategies as capital intensive scrubber equipment. The risk is that the concentrated capital requirements on a few will produce less efficient compliance strategies than if the smaller industrial sources had been targeted for their "fair" share.

The availability of tax incentives for control technology options allows for a more level playing field near term. This influence on compliance strategies should allow utilities to take a longer term view of control technology options. These same incentives will aid in establishing a market price of low sulfur that does not reflect the economic rents that otherwise might be demanded by low sulfur coal producers and the railroads.

A 20% environmental tax credit should be allowed on qualified investment in environmental equipment made for the purpose of reducing emissions. In addition, we propose that the environmental tax credit be normalized over the equipments life for rate making purposes through both a cost of service and rate base reduction, or its equivalent. This treatment would ensure that ratepayers would get the full benefit of the credit. PSI's has analyzed the effect of the environmental tax credit on the rate impact to our customers in the first full year of compliance (2001) with the acid rain provisions of the Clean Air Act Amendments as defined in H.R. 3030. Were the tax credit to be implemented in such a way as to be returned fully to the ratepayer over the facilities useful life as we have proposed, it would mitigate the rate increase by 21%.

Tax exempt debt financing is another tax incentive which should be made available to those companies requiring significant capital investment in order to comply with the acid rain proposals. While tax exempt financing has been used extensively in the past, the Tax Reform Act of 1986 significantly curtailed the use of tax exempt financing by private industry. The availability of tax exempt debt financing would be expected to reduce the rate impact of complying with acid rain legislation for PSI by as much 6%. The availability of tax exempt debt financing is critical as it allows affected companies the ability to finance massive amounts of capital investment in a cost effective manner.

Establishment of a five year class of property for the depreciation of pollution control facilities is another very important tax incentive which should be implemented. If not adopted, the tax depreciation life for such property under the present modified accelerated cost recovery system would be 20 years. Presently, five year amortization is allowed on certain pollution facilities installed on equipment originally placed in service prior to January 1, 1976. While a small portion of the newly required pollution control facilities would qualify for five year amortization under present law, the addition of a five year class life property group would insure that all pollution facilities installed as a result of the present proposal regarding acid rain would qualify for five year depreciation with the tax benefits returned to the ratepayer over the facilities useful life. In doing so, PSI estimates the necessary increase in rates to its customer due to acid rain provisions would be reduced by approximately 9%.

The mitigation of rate impacts reported for each of the three requested tax incentives reflects the impact of that incentive operating alone. The accumulative effect of applying all three incentives simultaneously would be somewhat less than individual effects totaled. For H.R. 3030, the total impact of the three tax incentives working together, in the first full year of compliance would equal approximately 28%.

There is no question that moving toward a balanced federal budget is important to all Americans. A recent study by the Ohio Consumers Counsel's Office reported that a 17% Environment Tax Credit would be revenue neutral. The construction programs that could result from these incentives will also aid in expanding tax revenues. Additional revenue could be generated by imposing an emissions fee on those industries that contribute to the problem but not required to make reductions under the amendments. These funds could be used to offset the tax incentives I have proposed.

In summary, the listed tax incentives are appropriate for the following reasons.

First, such incentives help to decrease potential utility rate shock for customers of those companies required to make investments and comply with the proposed legislation. This would serve to continue the recovery of Midwestern industries and serve to keep them more competitive than they otherwise would be.

Second, tax incentives provide another source of funds for utility companies and consequently reduce the amount and cost of financing required by utility companies in order to install the necessary pollution control devices .

Third, these tax incentives would recognize that while cleaning the environment is a top priority, getting that done in a manner that efficiently uses the nations resources is vital (i.e. scrubbing vs. low sulfur coal option).

Fourth, tax incentives are necessary to prevent PSI and other utilities in the Midwest who are asked to do more than their share of cleanup from bearing the total burden for those companies who, despite SO2 and NOx emissions, are required to contribute little or nothing to the cleanup.

And fifth, providing tax incentives to those companies who install pollution control facilities necessary to burn coal in an environmentally responsible manner retains productive industry within the Midwestern states, that being the coal industry.

As I stated earlier, PSI is willing to pay for its fair share of the necessary acid rain cleanup. We are not asking for a free ride. Even with the combined impact of the three tax incentives requested, and the resulting 28% mitigation of rate increases, our ratepayers will still be paying more than their fair share.

I respectfully ask you give serious consideration to how tax incentives can ensure that the proposed Clean Air Act Amendments allow for market efficiency and are fair and cost effective.

STATEMENT OF REP. NICK J. RAHALL
Before the Committee on Ways and Means

Mr. Chairman and Members of the Committee. Today, as you examine various tax measures, I would appreciate your consideration of the pressing need to extend the section 29 nonconventional fuel tax credit beyond its current expiration date.

As the chairman of the Subcommittee on Mining and Natural Resources, I have spent a considerable amount of time examining issues relating to the extraction of fossil energy in this country, be it coal, oil or natural gas. One thing I have come to realize is that the federal government often ignores the vast contribution that can be made to the energy security of this Nation by the production of resources that are not highly publicized or recognized by the media and the public at large.

For example, two weeks ago I conducted a hearing on the Administration's proposal to devise a National Energy Strategy. According to the Department of the Interior's testimony, in order to ensure a continued and reliable supply of fluid energy resources we should begin lifting offshore oil and gas leasing moratoria and open the Arctic Coastal Plain to drilling. Naturally, these proposals are highly controversial and attract a great deal of media and public attention.

I would submit that before we even begin to consider the development of some of these extremely environmentally sensitive areas, we take full advantage of the vast energy potential locked up in some of the more unconventional sources of gas right here in the Continental United States, and more particularly, states located within the Appalachian Basin like West Virginia. In this regard, I am talking about gas produced from Devonian shale and tight sands formations, and coalbed methane extraction.

These sources of energy are not exactly household words. They are, basically, relatively inaccessible sources of gas. Moreover, a far higher degree of risk is associated with drilling into Devonian shale or tight sands than in common natural gas reservoirs. Because of this tremendous risk, with the enactment of the section 29 nonconventional fuel tax credit, Congress has supported the development of nonconventional energy resources like coalbed methane, Devonian shale and tight sands by providing an incentive to explore for, and produce from, extremely risky and nontraditional sources of gas. Moreover, the credit can only be taken if an operator is successful in producing gas. I would further note that the folks using this credit in the tight sands and Devonian shale formations of West Virginia are not big multinational oil companies, but rather, small independent producers.

Under current law, each thousand cubic feet of Devonian shale, tight sands or coalbed methane gas produced prior to January 1, 2001, from wells that are drilled prior to January 1, 1991, earns this credit. In effect, the credit provides for a reduction in federal income tax that can be applied to earnings from the project itself and for other business activities in which the operator is involved. Indexed to inflation of the GNP, in 1988 the value of the credit was 82 cents per thousand cubic feet rising to 90 cents last year.

It is essential that the section 29 credit be extended beyond the current January 1, 1991, drilling deadline. To be sure, the Nation will require nonconventional sources of gas to meet its energy needs in the future, especially under new and more stringent national ambient air quality standards and electric utility emission restrictions and caps.

In this regard, I have introduced H.R. 1476. This legislation would: 1) Reinstate the tight sands credit needed to encourage additional production from this formation; 2) Make the credit equal to the Devonian shale credit and index it to inflation (previously, the tight sands credit was a fixed rate of approximately 51 cents per dekatherm); 3) Extend the qualification period for new wells indefinitely; 4) Extend the period during which gas sold from qualified wells may receive the credit indefinitely, making the credit subject to phase-out only as a result of oil prices exceeding the phase-out threshold; and, 5) Make the credit allowable against the alternative minimum tax.

In addition, I cannot stress enough the need to include coalbed methane in any legislation that extends the section 29 credit. In recent years a great deal of interest has been expressed in producing coalbed methane. On federal lands in the West, for example, coalbed methane is being produced in large quantities in Bureau of Land Management's Farmington, New Mexico, District. Meanwhile, coalbed methane development in Alabama is being described as one of the "hottest plays in this country." In most cases, the gas produced is pipeline quality and can readily augment the growing National demand for natural gas produced from conventional wells.

At this time, we have only begun to tap the vast potential held forth by coalbed methane development. A number of studies have identified coal in southern West Virginia and southwestern Virginia as a good source for coalbed methane extraction, with particular focus being placed on the Pocahontas coal seams.

Today, the Pocahontas coalfields are shut down. The coal in question was once thought of, domestically and abroad, as the premier source of metallurgical grade coking coal for the production of steel. However, due to the very characteristics of this coal that make it perfect for use in steelmaking, there is virtually no electric utility steam coal market demand for it. Meanwhile, efficiencies in the coke to pig iron ratio and the increased use of electric arc furnaces which produce steel from scrap have not only reduced coke demand, but consequently, eroded demand for southern West Virginia metallurgical coal in both domestic and international markets. Further, the battering taken by the domestic steel industry several years ago was perhaps the major contributing factor which lead to the devastation of the once mighty Pocahontas coalfields in places like McDowell and Wyoming Counties, West Virginia.

Today, even with a more vibrant domestic steel industry, southern West Virginia metallurgical coal production has not shared in the benefits. While coke ovens are still operating in this country, many are outdated and no effort has been made to modernize them by the integrated steel mills. This is in part due to the Environmental Protection Agency's estimated compliance cost of $19.3 million per year under its proposal to establish National Emission Standards for Hazardous Air Pollutants that would limit coke oven emissions from wet-coal charged by-product coke oven batteries.

For these reasons, the extraction of coalbed methane from these coalfields remains one of the only avenues of developmental potential. Without an extended section 29 credit, this will not occur.

In closing, I would be underestimating the situation if I said that ensuring the continued exploration, drilling and production of gas from nonconventional sources is necessary. It is essential. Gas produced from these formations make an invaluable contribution to the industrial vitality of the Nation, and to our energy security.

Statement from
RIDES for Bay Area Commuters
60 Spear Street, Suite 650
San Francisco, CA 94105-1512

RE: Commute-to-work benefits

Automobiles are a major source of environmental degredation in urban areas primarily because of air pollutants generated during commute periods. A major goal of RIDES for Bay Area Commuters is to reduce the number of automobiles on our roads by offering options, incentives and services that will provide commuters with alternatives to driving alone to work.

RIDES has provided commute transportation services to individuals, employers and governmental agencies for over twelve years. As the San Francisco Bay Area's only regional ridesharing agency, serving ten counties with over two million commuters, RIDES has in-depth knowledge of the factors which motivate commuters to stop driving alone.

One significant factor which contributes to an individual's choice of commute modes is cost. In the 1970's, the oil crisis caused an unprecedented use of transit and carpools, primarily due to the high cost of gasoline. Most commuters who switch from driving alone cite monetary savings as their primary motivational factor. When employers subsidize transit passes or vanpools, or provide cash incentives for people who do not drive alone, the use of ridesharing and transit increases significantly.

The State of California now considers any employer-sponsored commute benefits non-taxable. Many corporations and individuals wish to take advantage of this new tax law but cannot because of the tax penalties incurred at the federal level. The current federal tax laws are inconsistent with efforts to reduce air pollution and with efforts to address the effect of traffic congestion on the health and well-being of our citizens and communities. Additionally, they provide significant incentives via free parking subsidies for those who choose to drive alone.

RIDES urges you to repeal taxes on employer provided commute-to-work fringe benefits for those who carpool, vanpool, bicycle or walk to work, and to raise the tax-exempt portion of transit passes to a minimum of $60.00 per month with no "tax-cliff". We are certain that many more commuters are ready to switch from driving solo if they are given adequate incentives from their employers and favorable tax treatment from the Internal Revenue Service.

Thank you for the opportunity to present this statement.

By: Eunice E. Valentine, Executive Director

STATEMENT OF PETER SCHNEIDER, PRESIDENT
ROMIC CHEMICAL CORPORATION

Ways and Means Committee

Long Term Strategies for Environmental Solutions

Romic Chemical has recycled hazardous waste for 27 years, saving resources, protecting the environment, providing jobs, and generating revenues for taxes. We are part of the National Association of Solvent Recyclers/NASR that represents 35 companies recycling 75% of the available hazardous wastes in the Unites States.

Our industry, without the help of tax advantages, credits, etc. has done the job of recycling the country's by-products and wastes. We, as an industry, believe that we cannot be penalized by having taxes placed on our activities to pay for EPA waste reduction programs or enforcement activities.

Our industry has to generate revenues to make the process improvements, increased safety and compliance programs, air pollution devices, pretreatment systems for sewers, and all other major improvements. Next to stopping the actual use of chemicals, we are the solution! If you tax the solution, then people defer to an easier solution which defeats promoting recycling.

The CFC tax is the best way to achieve the results that benefit everybody. By taxing the front end (Manufacturers and distributors) everyone is equal--big companies and small companies. The new material has more value when it is bought. The user weighs the most efficient way to use the chemical, how to minimize its waste and over usage to its most effective rate. The user tries to prevent losses to the air or water so he can maximize recycling. The recycler gets the most waste possible and reclaims the material. Extra profit from the value of the material can be put to use for more efficient recycling and a savings to the customer over the cost of the new chemicals. Everyone benefits by this scenario.

The tax puts value on the product, reduces usage, promotes recycling, and deplates natural, first-time resources at a slower rate. Tax the recycler and no incentive exists for anybody. Without direct government regulations, people, through economics, achieve the reductions that everyone wants and needs. This is a real world "Earth Day" realization.

We would suggest that these principals applied to hazardous and non-hazardous wastes will create the right climate to achieve real resource conservation and reduction of wasteful practices. Put this principle to garbage; create incentives for metal, glass, paper, and other real achievement recycling.

Please consider the true recycler and the benefits we provide. Please do not handicap or deter us from all the good we can do by taxing us. We will, given the chance, solve the problems of the future.

LAW OFFICES OF
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March 16, 1990

VIA MAIL AND FAX

Robert J. Leonard, Esq.
Chief Counsel
Committee on Ways and Means
U.S. House of Representatives
1102 Longworth House Office Building
Washington, D.C. 20515

Dear Sir:

My name is Brad Sherman. I am a C.P.A. and tax attorney. From 1986 through 1989 I served on the California Common Cause Board and represented the organization on state tax issues.

Over the last 25 years, it has become increasingly apparent that one of the major problems facing the United States, as well as the rest of the world, is the damage being done to our environment through pollution and depletion of our natural resources.

Our tax policy is not being utilized to the fullest to clean up our environment and preserve our precious resources. In some instances, its effect is counterproductive to the goals we should be trying to achieve, i.e., that of a better environment.

One prime example of this is the federal tax deductiion which provides for a deduction of 70 % of the intangible drilling costs incurred by oil companies. That the oil companies should be provided this loophole is outrageous. It is even more outrageous that this loophole is provided for offshore oil drilling, which, in addition to depleting our resources, poses serious potential danger to our coastlines. The potential damage is obvious, based on the recent oil spills in Alaska, California, among others.

The intangible drilling cost allowance is allegedly justified on the grounds that our tax system should be used to encourage oil drilling; however, there is no justification for using our tax dollars to subsidize offshore oil drilling.

I thank you for allowing me to present my views on this important issue.

Sincerely,

Brad Sherman

Brad Sherman

Simpson

March 13, 1990

Mr. Robert J. Leonard, Staff Director
Committee on Ways and Means
U.S. House of Representatives
1102 Longworth Building
Washington, DC 20515-6348

Dear Mr. Leonard:

The following information is submitted for the record of the House Ways and Means Hearings on H.R. 4168 held on March 6 and 7.

Simpson Timber Company is a medium-sized forest products manufacturer which grows and harvests timber on the West Coast to provide building products including redwood, Douglas fir and hemlock lumber, Douglas fir plywood and fir and hemlock doors. In Northern California, its operating subsidiaries are Arcata Redwood Company and Simpson Redwood Company.

The Timber Company employs 2,590 people, of which about 760 are located on California's North Coast.

Simpson is 100 years old this year. The Timber Company owns some 380,000 acres of timberland in Northern California. Perhaps 5 percent of this is growing timber that is at least 150 years old, in widely fragmented and scattered areas of land. Trying to preserve these old trees makes management of the surrounding lands extremely difficult and costly.

In any case, the financial impact of H.R. 4168, if it were enacted into law, would be devastating to Arcata Redwood Company. The estimate of the additional costs of "disqualified redwood timber expense" for harvesting and transportation, the "depreciation and depletion" expenses, and the addition of an excise tax on harvesting of old-growth redwood totals $54,098,000. Based on our 1989 return on investment, if these additional costs were taken over the remaining harvest schedule for our old-growth, this would reduce our return by 60 percent each year.

This bill should not be reported out of the Ways and Means Committee for these reasons:

A. Redwood is a renewable resource--even trees 150 years old will grow back, perhaps to that age, or older.

B. Adequate Coast redwoods are preserved; 78,000 acres of virgin redwoods are in parks and reserves, according to Save-The-Redwoods League. Another 11,400 acres of residual old-growth have been set aside.

Simpson Timber Company 1201 THIRD AVENUE, SUITE 4900, SEATTLE, WASHINGTON 98101-3009
(206) 224-5000 FAX (206) 224-5060 TELEX 329560 SIMPSON HQ SEA

C. California private timberlands are currently managed under the most stringent forest practice rules of any state.

D. Some 35,000 acres of California redwood have already been acquired by two federal legislative takings from Simpson and Arcata Redwood for Redwood National Park.

E. Under the Timber Productivity Act of 1982, private lands are zoned for their primary use--timber. Other values relating to wildlife, watershed, fisheries, recreation, and aesthetics are assured consideration under the Forest Practices Act.

F. Nearly four million acres of national forest land in California, one-fifth of the total, are set aside as wilderness, off limits to timber harvesting.

G. California is the second-largest producer of softwood products in the nation; in 1988 over 70 percent of the wood products produced were used in the state.

H. The forest products industry in California is extremely important to the economy of the state and North Coast Region, the dependent communities and the 109,000 persons employed by the industry in the state (1988 State Employment Agencies figures).

There is no reason at this time to further reduce the "working forests" of California, either through set-asides or punitive taxes or added costs not borne equally by producers of competitive wood products. The tax and deletion of allowances of H.R. 4168 are confiscatory, unfairly applied, and without justification.

Every taking or set-aside of redwood timber over the years has been promoting as saving the "last," the "biggest," the "unique," or the "best" of the redwoods because they have "national significance," just as this proposal is being presented.

We respectively request that H.R. 4168 be rejected as not being in the best interests of the state of California or the nation.

Sincerely yours,

Joseph L. Leitzinger
Vice President, Public Affairs

610/25.1(2)

cc: Ways and Means Committee Members

Statement submitted to the Committee on Ways and Means,
U.S. house of Representatives, March 15, 1990

PRESERVING FAMILY LANDS:

TAX PROBLEMS

by

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One of the biggest single threats to the conservation and protection of privately-held land in the United States today is the Federal estate tax system.

For the first time in the history of the United States, a family that simply wants to leave its land to the children may not be able to do so without taking specific planning steps to protect the family's wishes.

The problem is a dramatic one.

Without proper planning, a valuable piece of land in an estate can trigger an estate tax so large that the land itself will have to be sold to pay the estate tax. If it is important for the family to preserve the land, whether for conservation purposes, for personal use and enjoyment, for nostalgia, or for pride, the lack of proper planning can lead to a terrible and irreversible result.

There are three reasons why this problem exists for so many families today. First of all, in many parts of the country, there has been an explosive increase in land values over the past decade. That family ranch, or farm, or family estate, worth more than a million dollars today, was worth a small fraction of that amount ten years ago. Ten years ago, the family's land did not account for a disproportionate part of the family's net worth and rarely was valuable enough to trigger estate tax problems.

The second reason why this land-saving problem exists today is that Federal estate tax rates remain high, even though Federal income tax rates have dropped. The highest effective Federal estate tax rate is 55%, and all of the explosive appreciation in land values is subject to be taxed at a very high estate tax rate.

Consider this. John and Mary own Riverview, the family's beautiful property they inherited from Mary's parents. Riverview is worth $2,000,000 and John and Mary have $500,000 in other assets. John dies and leaves everything to Mary, and when Mary dies she thinks she leaves Riverview and the bank accounts to the children.

* This statement is being made in my personal and professional capacity, and not on behalf of any particular client.

The combined Federal and Massachusetts estate tax on a $2,500,000 estate is $1,014,700. If John and Mary lived in Virginia, or Illinois, or Kansas, the combined Federal and state estate tax would be $833,000.

Riverview must be sold to pay the estate tax. Riverview's two million dollar value is attributable to its development potential, and when forty or fifty houses or a strip mall or an industrial park cover the site the tranquility and woods and habitat and open space are gone forever. Land conservation and the anticipated transfer of the family's wealth (and pride) have suffered terrible, irreversible results.

What if Bob and Sue own Diamond Farm, productive agricultural open space hemmed in by subdivision? All of the family's energy, and almost all of the family's cash, have been poured into the farm, and Bob and Sue have always intended that the children would inherit the farm and keep up the family's work. Bob and Sue don't consider themselves millionaires, but Diamond Farm is worth $1,750,000 to a real estate developer.

When Bob and Sue die (assume they have $100,000 in other assets), the Federal estate tax alone on their estate is $520,500. Diamond Farm must be sold to pay the estate tax. Condos are likely to sprout, and one more fertile, working farm will be gone forever.

There is a special Federal estate tax relief program for farms; Diamond Farm might qualify (and, on these facts, this relief provision wouldn't be very helpful). Additionally, of course, life insurance proceeds might cover the estate tax costs, if the family thought about this problem ahead of time, if enough life insurance could be purchased, and if Bob and Sue could afford it. The purpose of this example is to point out the awful result if for whatever reason those forms of relief are not available.

The third reason why this family land planning problem exists today is that, unfortunately, too many families and too many family advisors do not recognize that a valuable piece of land in a family's estate requires special attention and a special kind of estate planning. This could be so for a variety of reasons. Perhaps it is not apparent how valuable the land has become. Possibly the land is simply treated as "value" in the estate; if there is an equal amount of "value" of stock in an estate, for example, it may hurt to pay the tax but it is unlikely that selling the stock will lead to teardrops on the family's scrapbook. Whatever the reasons, it is absolutely clear that the standard estate plan, on white crinkly paper with red lines down the side, signed, initialled, notarized, and stored in the vault, often will not protect the family's land.

What will protect the family's land? There are a few possibilities. One approach might be to put in place a program of lifetime transfers of interests in the family's land to younger-generation family members. Such a program, of course, may have potential gift-tax consequences and has now been made exceedingly more difficult by 1987 and 1988 Federal "estate-freeze" legislation. No program of lifetime family wealth transfers should be undertaken without the advice of experienced tax counsel.

Another approach might be to take advantage, where possible, of the current limited Federal tax incentives for land conservation, including incentives for returning the ownership of property but imposing restrictions on its future use. Such restrictions take the form of a recorded restriction on property (known as a "conservation easement" or a "conservation restriction").

With a conservation easement, a landowner has restricted his or her right (and the right of any future owner) to develop the land, but the landowner still owns the property. The landowner can continue to live on it or farm it, invite guests over or keep trespassers off, or, subject to the restrictions, sell the property, give the property away, or leave the property to the children.

Here is a simple illustration of how the numbers might work.

Assume that John and Mary's Riverview is worth $2,000,000 to a developer (who would then subdivide the property, build homes on it, and sell homes and/or house lots).

If Riverview were subject to a conservation easement, however, and could not be subdivided, the development potential would be nonexistent and the value of the property would be considerably lower (although Riverview would still retain some significant value). For example, assume the value of Riverview as a 200-acre "estate" that could never be further developed is $650,000. With respect to John and Mary's property, then, the value before the easement or restriction would be $2,000,000, and the value after the restriction would be $650,000. Therefore, the value of the gift is $1,350,000, and that represents the allowable income tax deduction.

John and Mary's ability to use all of that million-plus-dollar deduction for income tax purposes is subject to certain tax code limitations. But John and Mary have "given away" all of that value that pushed up their estate and pushed up their estate tax. The conservation easement may well have helped to solve their family land planning problem. It is a happy result, indeed, when society profits from the protection of important conservation resources and the family "profits" by protecting the family's land.

It is important to emphasize that not every easement restricting the future development of property will qualify for an income tax deduction. The tax law requires that the gift be "for conservation purposes." As a rule, the following generalization works: the more significant the land is, the more it adds to the public good, the more likely it is that you will qualify for the deduction. Protecting a large tract of primarily undeveloped property (like John and Mary) or ranchland or farmland (like Bob and Sue), or a smaller parcel of land with scenic or open space qualities, protecting habitat for migratory waterfowl or for an important or threatened animal or plant species, preserving a scenic view on a long stretch of roadside that is threatened with subdivision, contributing to a greenbelt around a city or preserving a watershed by a scenic brook or river, these donations are more likely to meet tax code requirements.

Easements are a useful conservation tool and a useful tax planning tool. Unfortunately, however, the federal tax incentives provided by the donation of conservation easements are quite limited. I strongly urge this Committee to begin consideration of additional federal tax incentives to preserve important privately-owned property. The estate tax issues I have discussed here cut across geographic, social, and economic lines. Further, I would be happy to discuss this issue at greater length with any Committee member, or with any Committee staff member.

STATEMENT OF THE
SOCIETY OF THE PLASTICS INDUSTRY, INC.

I. Introduction and Statement of Position

The Society of the Plastics Industry, Inc. appreciates the opportunity to comment on the role of the Federal tax system in "encouraging recycling" and "improving the environment" through a tax on virgin materials. The Society of the Plastics Industry is a trade organization of more than 2,000 members representing all segments of the plastics industry in the United States. SPI's operating units and committees are composed of resin manufacturers, distributors, machinery manufacturers, plastic processors, mold makers, and other industry-related companies and individuals.

The following comments are submitted to assist the United States House of Representatives Committee on Ways and Means in exploring the role of the Federal tax system in improving the nation's environment. The comments are directed in particular to Chairman Dan Rostenkowski's February 1, 1990, press release requesting testimony and comments on a variety of federal tax incentives to "improve the environment," including "the denial of deductions for the cost of, and an excise tax upon, the harvesting of virgin materials, for example, old-growth redwoods." The Society of the Plastics Industry, Inc. shares the Committee's desire to expand the recycling of plastics and other materials. However, we believe, for the reasons set forth below, that a tax on virgin resins would not accomplish the Committee's goals of environmental improvement and increased recycling.

A tax on virgin materials (1) will discourage the plastics industry's direct funding of recycling, (2) will not guarantee that revenue raised by the tax will actually be used for recycling programs, (3) will adversely impact the current balance of trade between the United States and foreign countries with regard to plastic resins, (4) will exacerbate the current imbalance of trade between the United States and foreign countries with regard to plastics products, and (5) will act as a direct tax on consumers through increased prices of plastics products. Further, "a tax on virgin materials" raises difficult definitional problems. It is not clear how "virgin" and "recycled" would be defined; depending upon the definitions ultimately included in any legislation, the tax might severely impact industry's direct funding of recycling programs.

II. A Tax on Virgin Resin Will in Fact Discourage the Funding of Recycling Programs.

The United States plastics industry recognizes that recycling is a key element of an integrated municipal solid waste management strategy -- source reduction, recycling, waste-to-energy incineration, and landfilling -- and that the industry bears responsibility for encouraging the development of a plastics recycling infrastructure nationwide, capable of making plastics the most recycled material in any application by the year 2000. In an effort to meet this goal, private companies and plastic industry associations have devoted, and continue to devote, considerable funds to sponsoring research necessary to achieve effective recycling, including collecting and processing plastics for recycling facilities, as well as the development of long-term markets for recycled plastic products. Industry currently funds several university research programs to refine technology necessary for post-consumer plastic reclamation and to improve collection and reclamation technology for recycling plastics.

A tax on virgin materials as a means of funding recycling programs will not lead to increased recycling. Requiring industry to pay an excise tax on virgin resin will dampen incentives for individual companies to act directly in sponsoring their own recycling ventures. As indicated by the litany of industrial projects discussed below, industry has devoted considerable time, effort, and money to individual and joint ventures aimed at making plastics recycling the norm across the country. A tax on virgin material will undercut these and other recycling efforts significantly.

1. The Council for Solid Waste Solutions

The Council for Solid Waste Solutions, a program of The Society of the Plastics Industry, Inc., was founded in 1988 to find and develop long-term solutions to United States solid waste management problems and to make large-scale recycling of plastics a reality. Through a $1 million-a-year community aid initiative, the Council provides support for municipal recycling programs through technical assistance, program design, educational materials, and state-of-the art equipment. The Council also develops technical specifications for facilities which sort and recover recyclable materials, including plastics. The Council has focused its resources on the development of a "recycling blueprint" that will provide the foundation for an economically viable and sustainable plastics recycling system across the nation. The blueprint will address the four essential ingredients necessary for recycling to succeed: (1) collection, (2) handling, (3) reclamation, and (4) end-use markets.

2. National Association for Plastic Container Recovery Recycling Activity

The National Association for Plastic Container Recovery, Inc. (NAPCOR) is a non-profit association of twelve major polyethylene terephthalate resin and container manufacturers committed to achieving a 50% recycling rate for PET bottles by 1992. NAPCOR works with state and local authorities around the country, providing technical assistance and public education and promotion programs to help start and expand plastics recycling activities.

3. Dow Chemical Company/wTe Corporation Plastics Recycling Demonstration Project

The Dow Chemical Company and wTe Corporation together are sponsoring a curbside collection and recycling program in Akron, Ohio. The 12,000 families participating in the Akron project will place various recyclables -- glass, metals, newspaper, and several types of plastics -- in a single container for collection at curbside. The recyclable materials will be separated at a Materials Recovery Facility (MRF), and once separated, the mixed plastics will be sorted and processed for resale by Dow and wTe at a plastics recycling facility located in the MRF. Vinyl producer B.F. Goodrich Company will also participate in the program by recycling polyvinyl chloride collected at curbside. The 12,000 homes participating in the two-year effort are expected to produce an estimated seven tons per day of recyclables, including two tons of mixed plastics.

4. Joint Venture Between Dow Chemical Company and Domtar, Inc. to Recycle PET and HDPE

Dow Chemical Company has joined forces with Domtar, Inc. of Montreal, Quebec, to form a North American plastics recycling company intended to process annually PET and HDPE plastics from 600 million plastic soft drink containers and

milk, shampoo, and detergent bottles. The company expects to be operational by the end of this year.

5. Du Pont/Waste Management, Inc.

In a joint venture launched in 1989, the United States' largest plastics manufacturer, Du Pont, and waste hauler Waste Management Inc. (WMI) combined forces to begin construction of the largest plastics recycling and reprocessing operation in the United States. The first Du Pont/WMI processing facility, to be operational early this year, will be capable of handling 40 million pounds of plastics annually.

Curbside separation of recyclables and volunteer programs are expected to provide the bulk of the raw materials (post-consumer plastics) to be processed at the facility, in addition to WMI's "Recycle America" program, which collects recyclables in some ninety North American communities. Once the recycled plastic resin is produced, Du Pont will treat and prepare the resin for use in appliance, automotive, building, and consumer products.

In addition to its joint venture with Waste Management, Inc., Du Pont also currently operates eleven plastics recycling facilities in the nation, recycling some 200 million pounds of plastics per year.

6. Illinois/Du Pont Recycling Development Program

The State of Illinois and Du Pont have formed a government-industry partnership to reprocess and recycle plastics into usable highway construction products. The first stage of the recycling program calls for the design and production of highway construction products -- such as roadway dividers and traffic re-routers -- from reclaimed polyethylene terephthalate (PET) and high density polyethylene, plastics commonly used in soft drink bottles and milk containers. The recycled plastic products will be submitted to the Illinois Department of Transportation (IDOT) for review and specification procedures; following product testing, Illinois procurement bid requirements will be followed for direct sale of the products to the IDOT and its contractors. Governor James R. Thompson commented as follows:

> The beauty of this program is that everyone will benefit. Not only will we create more jobs for the people of Illinois, but we will be helping to make our state a model for recycling success, demonstrating that, through the combined efforts of the public, the government and private industry, we can and will discover and implement economically viable solutions to the country's escalating solid waste problem.

The Illinois-Du Pont recycling program has been characterized as a market-driven waste management solution that benefits businesses as well as the environment. Not only will the program result in the development of more durable and cost-effective products for use on Illinois highways (all from plastics which might otherwise enter the solid waste stream), Illinois' dependence on landfills also will be reduced and public awareness of recycling as a viable and vital waste management solution will be heightened.

7. Procter & Gamble Company/Plastipak Packaging, Inc. Recycling Program

Procter & Gamble Company and Plastipak Packaging, Inc. have formed a partnership to recycle polyethylene terephthalate soft drink bottles into bottles for holding Spic & Span Pine®, the latest in a long line of products recycled from plastic soft drink bottles. Currently, some 20% of the PET sold in the United States is recycled into products such as carpeting and fiberfill. This amounted to more than 1 billion plastic soft drink bottles in 1988, with a scrap value that is second only to aluminum among container materials.

8. Procter & Gamble Commitment to Use Recycled Plastic Bottles for Detergents

Procter & Gamble Company is also committed to developing plastic containers made in part from recycled high density polyethylene ("HDPE") plastic. In April, 1989, representatives from P&G and several companies that design and produce plastic packaging for Procter & Gamble's products announced that tests were being conducted to determine the feasibility of manufacturing plastic packaging for liquid Tide®, Cheer®, and Downy® using recycled HDPE, coming primarily from clear plastic milk and juice containers. The firms have already developed bottles containing 20%-30% recycled material, which are currently being tested in several markets in the United States. Further, P&G, along with other United States companies, are continuing to research and develop additional applications for recycled HDPE.

9. Amoco Chemical Company Polystyrene Recycling Facility

Amoco Chemical Company has opened one of the nation's first recycling facilities for post-consumer polystyrene foam collected from fast-food restaurants, cafeterias, and other institutions. Polystyrene Recycling, Inc., located in Brooklyn, New York, collects foam containers and cups from Nassau Community College, schools in New York City, local businesses, and area McDonald's restaurants.

Rubbermaid Commercial Products, Inc. of Winchester, Virginia, is one of many buyers of the recycled polystyrene, using as much as a 90% concentration of recycled plastics to manufacture office accessories, note pad holders, trays, and trash receptacles.

10. Quantum Chemical Corporation/Custom Pak HDPE Recycling Program

Quantum Chemical Corporation of Cincinnati, Ohio, has joined with Custom Pak of Clinton, Iowa, in a program to recycle plastic milk containers. After Quantum collects milk containers in receptacles outside its Clinton plant, the containers are shipped to Custom Pak's recycling facility, where the materials are transformed into portable tool boxes and similar long-lasting items.

11. The Vinyl Institute/Vermont Republic Industry's Plastics Recycling Project

The Vinyl Institute, a division of The Society of the Plastics Industry, Inc., is funding and managing a plastics recycling project with Vermont Republic Industries, a non-profit recycling services company that employs disabled workers at full wages. The year-long program is designed to identify new applications for recycled vinyl, allowing the development of profitable vinyl recycling industries. Vinyl, found in

containers for cosmetics, food and shampoo, can be recycled into durable vinyl items, such as irrigation and drainage pipes.

12. Union Carbide to Build Nation's First Multi-Plastics Recycling Center

Union Carbide Chemicals and Plastics Company, Inc. announced plans in late January 1990 to build and operate the first full-scale, multi-plastics recycling facility in the United States. The expandable 40 million pound-per-year plant, to be located in Piscataway, New Jersey, is scheduled to begin operations in the first quarter of 1991, subject to state and local approvals.

The Plastics Recycling Center will process post-consumer plastic film and rigid plastic containers, including polyethylene wrap (trash, lawn, grocery, produce and merchandise bags and protective coverings, such as shrink and pallet wrap); rigid polyethylene household and industrial containers (detergent, bleach and motor oil bottles, and plastic milk and juice bottles); and PET (soft drink and liquor bottles).

13. National Polystyrene Recycling Company

Eight of the nation's largest manufacturers of polystyrene -- Amoco Chemical Company, ARCO Chemical Company, Chevron Chemical Company, The Dow Chemical Company, Fina Oil and Chemical Company, Huntsman Chemical Corporation, Mobil Chemical Company and Polysar Incorporated -- have consolidated efforts to promote recycling of polystyrene by founding the National Polystyrene Recycling Company (NPRC). NPRC, which will administer at least five regional reprocessing and recycling centers throughout the country by 1990, plans to recycle at least 25% of the United States' post-consumer polystyrene food service and packaging material -- amounting to some 250+ million pounds of polystyrene a year -- by the year 1995. The $16 million dollar venture was inaugurated in November, 1989 with the acquisition of the existing "Plastics Again" polystyrene recycling plant in Leominster, Massachusetts. Other planned recycling sites include Philadelphia, Chicago, Los Angeles, and San Francisco. Together with the food service companies, NPRC is also initiating polystyrene separation programs at a variety of food service outlets; polystyrene collected from these, as well as other sources, will serve as "raw material" for the recycling plants.

* * *

The activities described above amount to an investment by industry of tens of billions of dollars to promote plastics recycling. A tax on virgin materials will only act to reduce the direct industry funds available for these plastics recycling programs and others being developed.

III. A Tax on Virgin Materials Will Not Ensure Increased Recycling.

One unrealistic assumption apparently underlying the concept of a tax on virgin materials is that any monies collected by such a tax would in fact be used effectively for recycling programs, and not simply increase the general revenues. Even if the tax receipts were set aside in a separate trust fund, experience teaches that such funds either continue to accrue or are diverted for general budgetary purposes. Furthermore, direct industry spending on recycling is more effective than the indirect method of government

taxation and redistribution through some as yet unidentified mechanism.

IV. A Tax on Virgin Materials Will Harm the Competitiveness of the U.S. Plastics Industry.

The relevance of plastics raw materials and finished products in international trade has become significant over the past decade. Plastics resin exports have grown steadily in recent years, making a positive contribution to the U.S. balance of trade of over $4 billion in both 1988 and 1989. The imposition of a tax on virgin resin would most certainly reduce that positive balance by placing U.S. producers of plastics resins at a distinct disadvantage against foreign competitors in world markets. Even a small tax could, in the volatile world markets of plastics raw materials, be a significant factor in the ability of U.S. companies to compete.

The impact of a virgin materials tax would likely be more serious for U.S. producers of finished plastics parts and products. First, the modest, but growing export business of U.S. plastics products manufacturers would be placed at a disadvantage by the higher raw material costs resulting from a tax. Perhaps more significant, though, is the competitive advantage that would be handed to foreign producers of plastics parts and products.

In 1984, the products now categorized in the plastics chapter of the new U.S. Harmonized Tariff Schedule (Chapter 39) had a net trade deficit of $1.65 billion (imports of $7.9 billion, exports of $6.3 billion). By 1988, that deficit had grown to $8 billion, with imports topping $17 billion. A virgin materials tax on plastics resin would only exacerbate the international competitive problems that U.S. plastics products manufacturers are already experiencing.

V. A Tax on Virgin Materials Will Act as the Equivalent of a Direct Tax on Consumers.

Under a free market, taxes on virgin or raw materials will affect consumer pricing. The consumer will pay for a virgin materials tax through increased costs of the final product. While a tax on virgin materials may not appear at first blush as a direct tax on consumers, it will act as one.

VI. Legislation Imposing A Tax on Virgin Materials Faces Difficult Definitional Issues.

Before legislation can be drafted imposing taxes on virgin materials, difficult definitional problems will have to be resolved. It is not entirely clear that such a tax would even apply to plastic resin manufacturers, given the fact that these materials are derived from petroleum, and are not truly "virgin" materials. Were the virgin materials tax to apply to resin operations, it is also not clear whether in-plant scrap, which is recycled by many companies, would be taxed as a virgin material or not. The tax might in actuality discourage this method of recycling large amounts of resin.

VII. Rather than Impose a Tax on Virgin Materials, the Federal Government Should Instead Devote Its Energy and Resources to Ensuring the Siting and Permitting of Recycling Facilities.

The Society of the Plastics Industry believes that a far more effective means of encouraging recycling of virgin materials, including virgin plastic resin, would be through direct action by the Federal government. Instead of indirectly acting through a tax, the Federal government should assist states and localities in siting recycling facilities. The greatest disincentive to recycling is the often too prevalent public opposition to the siting of any facility dealing with "garbage," even in the face of mounting municipal and state difficulties in disposing of municipal solid waste. A more constructive means of assuring recycling than a tax on virgin materials would be the Federal government's commitment to helping state and local governments overcome problems in siting and permitting of plastics recycling plants.

TESTIMONY OF

THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

BEFORE THE HOUSE WAYS AND MEANS COMMITTEE

Submitted March 12, 1990

THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS (SCAG) APPRECIATES THE OPPORTUNITY TO SUBMIT THIS TESTIMONY WHICH ADDRESSES ONE OF THE MOST IMPORTANT CHALLENGES THE SOUTHERN CALIFORNIA REGION FACES TODAY, AND THAT IS TO IMPLEMENT THE AIR QUALITY MANAGEMENT PLAN (AQMP) AS WELL AS THE ENTIRE SET OF REGIONAL PLANS. SUCCESS IN IMPLEMENTING THE AQMP IS IMPERATIVE TO ACHIEVE HEALTHFUL AIR QUALITY REGIONWIDE AND TO IMPROVE THE QUALITY OF LIFE AND HEALTH AND MOBILITY IN SOUTHERN CALIFORNIA.

SCAG IS THE METROPOLITAN PLANNING ORGANIZATION SERVING THE SIX-COUNTY, SOUTHERN CALIFORNIA REGION. PURSUANT TO FEDERAL AND STATE REQUIREMENTS, THE AIR QUALITY MANAGEMENT PLAN PREPARED AND ADOPTED BY SCAG AND THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) SETS THE DIRECTION FOR BRINGING THE SOUTH COAST AIR BASIN INTO COMPLIANCE WITH STANDARDS BY 2007.

AS A GUIDANCE DOCUMENT, THE AQMP IDENTIFIES AND INCORPORATES A COMPREHENSIVE SET OF INTERACTIONS AMONG TRANSPORTATION, LAND USE, GROWTH MANAGEMENT, AND REGIONAL HOUSING NEEDS. THE PLAN INCLUDES: (1) TRANSPORTATION CONTROL MEASURES, (2) LAND USE MEASURES, AND (3) ENERGY CONSERVATION MEASURES. THESE MEASURES ARE BASED ON REGIONAL POPULATION GROWTH, GENERAL DEVELOPMENT, AND TRANSPORTATION NEEDS FORECASTS.

IN ADDITION TO THE AQMP, THE SET OF REGIONAL PLANS INCLUDES THE REGIONAL GROWTH MANAGEMENT PLAN (GMP), THE REGIONAL MOBILITY PLAN (RMP), AND THE ASSESSMENT OF REGIONAL HOUSING NEEDS. TOGETHER, THESE FOUR PLANS PROVIDE A FRAMEWORK FOR IMPROVING THE AIR WE BREATHE, AS WELL AS FOR MAINTAINING ACCEPTABLE LEVELS OF TRANSPORTATION MOBILITY AND FOR SHAPING THE FORM OF COMMUNITIES BY PROVIDING NEW ALTERNATIVES TO THE WAY REGIONAL POPULATIONS LIVE AND WORK.

SOUTHERN CALIFORNIA'S AIR POLLUTION IS CONSIDERED THE WORST IN THE NATION. REGULATORY APPROACHES TAKEN IN THE PAST HAVE PRODUCED MEASURABLE IMPROVEMENTS. REGULATION HAS AND WILL CONTINUE TO BE AN IMPORTANT PART OF THE AIR QUALITY SOLUTION.

YET FURTHER AIR QUALITY IMPROVEMENTS ARE NECESSARY, IN PART TO MITIGATE THE POPULATION INCREASES PROJECTED FOR THE SOUTHERN CALIFORNIA REGION -- THE SCAG REGION EXPECTS FIVE MILLION NEW RESIDENTS BY THE YEAR 2010.

WHEREAS SIZABLE EMISSIONS REDUCTIONS HAVE OCCURRED IN THE PAST, THE REGULATORY FOCUS WAS UPON PHYSICAL SOURCES OF EMISSIONS, SUCH AS FACTORIES AND TAIL PIPES. THE POLLUTION REDUCTIONS NEEDED TO BRING THE BASIN INTO COMPLIANCE WITH NATIONAL STANDARDS REQUIRE NEW AND EXPANDED TECHNIQUES AND SHIFTS IN BEHAVIORAL PATTERNS. FUTURE REDUCTIONS REQUIRE COMMITMENT FROM INDIVIDUALS AND CORPORATE ENTITIES -- PUBLIC AND PRIVATE. IT WILL BE DIFFICULT TO AFFECT MILLIONS OF INDIVIDUAL DECISIONS THROUGH A REGULATORY APPROACH ALONE. A MARKET INCENTIVES APPROACH IS A NECESSARY COMPLEMENT TO REGULATION AND MAY BE THE MOST IMPORTANT WAY TO INVOLVE INDIVIDUALS IN POLLUTION REDUCTION.

FOR INSTANCE, THE AQMP IDENTIFIES THE NEED FOR REDUCING VEHICULAR TRIPS. REGULATIONS THUS FAR HAVE FOCUSED ON WORK TRIPS. BUT THE SOUTHERN CALIFORNIA REGION MUST ALSO REDUCE ITS NON-WORK VEHICLE TRIPS. MARKET INCENTIVES MAY BE AN EFFECTIVE TECHNIQUE FOR ADDRESSING THIS SEGMENT OF THE TRAVELING PUBLIC -- THOSE WHOSE DRIVING IS NOT RELATED TO WORK -- BECAUSE OF THE DIFFICULTY IN TRYING TO IMPLEMENT DIRECT REGULATIONS ON THESE TRIPS. MARKET FORCES CAN BE USED TO IMPROVE THE OVERALL EFFECTIVENESS AND SUCCESS OF THE IMPLEMENTATION OF THE REGION'S CONTROL MEASURES.

MARKET INCENTIVES APPROACH

AS USED HERE, MARKET INCENTIVES REFER TO ECONOMIC INCENTIVES AND DISINCENTIVES THAT HAVE BEEN DESIGNED TO REDUCE CONGESTION AND AIR POLLUTION. THE PURPOSE OF MARKET INCENTIVES IS TO INCREASE AWARENESS AMONG INDIVIDUALS AND FIRMS BY IDENTIFYING THE TRUE COSTS OF THEIR DECISIONS, "NOT JUST THEIR DIRECT COSTS, BUT THE FULL SOCIAL COSTS OF THE CONSEQUENCES" ASSOCIATED WITH THEIR ACTIONS AND TO CHARGE FOR THOSE COSTS. (PROJECT 88, "HARNESSING MARKET FORCES TO PROTECT OUR ENVIRONMENT," DECEMBER, 1988.)

FOR SERIOUS NON-ATTAINMENT AREAS LIKE SOUTHERN CALIFORNIA, MARKET INCENTIVES CAN BE EFFECTIVE TOOLS FOR IMPROVING AIR QUALITY BY ENSURING MAXIMUM COVERAGE. INCENTIVE-BASED SYSTEMS IMPOSE A COST ON POLLUTION-CAUSING ACTIVITIES, LEAVING IT TO INDIVIDUALS AND INDIVIDUAL FIRMS TO DECIDE THEMSELVES HOW BEST TO ACHIEVE THE REQUIRED LEVEL OF ENVIRONMENTAL PROTECTION AT THE LEAST COST. MARKET APPROACHES CAN GUIDE INDIVIDUAL CHOICES BECAUSE THE MARKET APPROACH REFLECTS THE REAL COSTS OF INDIVIDUAL DECISIONS.

AS A SUPPLEMENT TO REGULATIONS, MARKET INCENTIVES ARE NOT AUTOMATICALLY COMPATIBLE. THE RELATIONSHIPS AMONG MARKET FORCES, INDIVIDUAL DECISIONS, AND REGULATIONS ARE COMPLEX, AND IN ORDER TO IMPROVE AIR QUALITY IN SOUTHERN CALIFORNIA, THE PROPER BALANCE WILL DEPEND ON CAREFUL DESIGN OF REGULATORY PROGRAMS.

UNDERSTANDING MARKET FORCES IS A DIFFICULT TASK. WHEN MARKET FORCES ARE INTENTIONALLY USED TO IMPROVE ENVIRONMENTAL HEALTH AND QUALITY, THE EFFECTS MUST BE MONITORED -- ANOTHER FORMIDABLE TASK. SCAG AND OTHERS ARE WORKING ON DEVELOPING FRAMEWORKS FOR EFFECTIVELY MONITORING PERFORMANCE. MARKET ELASTICITIES MUST ALSO BE DETERMINED AS RESPONSES TO VARIOUS MARKET INCENTIVES ARE EVALUATED. AT THE SAME TIME, SCAG REALIZES THE DIFFICULTY IN ATTRIBUTING THE UPGRADING (OR DEGRADING) OF AIR QUALITY TO SPECIFIC ACTIONS OR BEHAVIOR PATTERNS. THE EXERCISE OF CALCULATING AND ASSIGNING ACTUAL COSTS (OR APPROXIMATING COSTS) IS FORMIDABLE BUT NECESSARY TO THE OVERALL IMPLEMENTATION STRATEGY.

GOVERNMENT INVOLVEMENT

LOCAL GOVERNMENT

LEADERS IN SOUTHERN CALIFORNIA AND ACROSS THE NATION ARE DEVELOPING AN AWARENESS OF THE BENEFITS THAT CAN ACCRUE FROM MARKET-BASED, ENVIRONMENTAL PROGRAMS. THE INVOLVEMENT OF ALL GOVERNMENT LEVELS, ESPECIALLY LOCAL GOVERNMENT, IS CRITICAL FOR THE SUCCESSFUL IMPLEMENTATION OF THE REGIONAL PLANS IN SOUTHERN CALIFORNIA; THE GROWTH MANAGEMENT AND TRANSPORTATION TASK FORCE IS A NOTEWORTHY EXAMPLE OF CURRENT EFFORTS.

CONVENED IN JUNE, 1989, THE TASK FORCE WAS CREATED JOINTLY BY SCAG'S EXECUTIVE COMMITTEE AND SCAQMD'S GOVERNING BOARD TO REVIEW AQMP IMPLEMENTATION CONCERNS. THE TASK FORCE MEMBERSHIP IS LED BY LOCAL GOVERNMENT REPRESENTATIVES, INCLUDING LOCAL ELECTED OFFICIALS. IN ITS WORK, THE TASK FORCE REALIZED THE IMPORTANT ROLE MARKET INCENTIVES COULD PLAY IN BRINGING THE REGION CLOSER TO ATTAINMENT. THE TASK FORCE ESTABLISHED A MARKET INCENTIVES SUBCOMMITTEE, CHARGED WITH DEVELOPING MARKET INCENTIVE IMPLEMENTATION ALTERNATIVES. ITS RECOMMENDATIONS FORM THE BASIS FOR MUCH OF THIS TESTIMONY. THE TASK FORCE IN JANUARY, 1990, STRONGLY EMPHASIZED THE IMMEDIATE NEED FOR MARKET INCENTIVES.

INCENTIVES ARE CONSIDERED ESSENTIAL AND INCLUDE MEASURES SUCH AS TRADED EMISSION PERMITS, ROAD USE FEES, EMISSION CHARGES, REDUCED PARKING SUBSIDIES, AND CORRECTIVE TAX POLICIES. **THEREFORE, AS RECOMMENDED BY THE TASK FORCE, THE FEDERAL CLEAN AIR ACT AND THE 1991 AQMP SHOULD INCLUDE LANGUAGE THAT PERMITS THE USE OF MARKET INCENTIVES -- ALTERNATE APPROACHES THAT COMPLEMENT COMMAND AND CONTROL STRATEGIES.** MARKET INCENTIVES COULD GREATLY BENEFIT PUBLIC AND PRIVATE SECTORS IN THEIR CONFORMITY EFFORTS.

FEDERAL GOVERNMENT

CURRENT FEDERAL REGULATIONS PREVENT ECONOMIC INCENTIVES FROM BEING INCLUDED IN FEDERALLY REQUIRED AIR QUALITY IMPLEMENTATION PLANS. WHILE THE CURRENT

FEDERAL CLEAN AIR LAW ITSELF DOES NOT PRECLUDE ECONOMIC INCENTIVES -- IN FACT, IT EXPRESSLY MENTIONS ROAD FEES AS A POSSIBLE CONTROL STRATEGY, THE LAW IS WRITTEN IN SUCH A WAY THAT ADMINISTRATIVE DISCRETION IS GRANTED TO THE ENVIRONMENTAL PROTECTION AGENCY (EPA) TO DETERMINE WHETHER SUCH MEASURES CAN BE USED. IN THE CASE OF ECONOMIC INCENTIVES, CURRENT EPA REGULATIONS MUST BE AMENDED TO RECOGNIZE THE REDUCED FLEXIBILITY THAT SOUTHERN CALIFORNIA HAS TO CONTROL AIR POLLUTION. REGULATORS MUST BE PROVIDED THE NEEDED DISCRETION TO USE INCENTIVE-BASED MEASURES. THE U.S. CONGRESS SHOULD CLEARLY ENCOURAGE MARKET INCENTIVES BY INCLUDING THIS REGIONAL IMPLEMENTATION TOOL WITHIN THE BODY OF WRITTEN LAW. AGAIN, THE INTENT BEHIND MARKET INCENTIVES IS TO PROVIDE NON-ATTAINMENT AREAS WITH ADDED TOOLS TO IMPROVE THE AIR -- TOOLS THAT MUST HAVE BUILT-IN FLEXIBILITY BECAUSE THE TASK AT HAND IS SO LARGE.

TAX PROVISIONS

SOME CURRENT TAX LAWS ESTABLISH BARRIERS TO MARKET INCENTIVE PROGRAMS. FOR EXAMPLE, ALTHOUGH SUBSIDIZED PARKING PROVIDED BY THE EMPLOYER TO THE EMPLOYEE IS NOT TAXED, EMPLOYER "TRAVEL ALLOWANCES" AND BUS PASS PROGRAMS -- WHERE EMPLOYEE AWARENESS OF COSTS IS APPROPRIATELY RAISED -- ARE! SUCH TAX POLICIES ARE COUNTERPRODUCTIVE AND WORK AGAINST THE SUCCESS OF MARKET APPROACHES. THOSE GOVERNMENT PROGRAMS THAT DO IMPOSE MARKET BARRIERS OR PROVIDE DIRECT OR INDIRECT SUBSIDIES AND CONSEQUENTLY CREATE MARKET SIGNALS THAT CONTRIBUTE TO ENVIRONMENTAL PROBLEMS MUST BE RECOGNIZED AND REFORMED. TAX LAWS SHOULD NOT CREATE INCENTIVES THAT INCREASE POLLUTION. IF THEY ARE NOT FAVORABLE TO MARKET INCENTIVE PROGRAMS THAT REDUCE POLLUTION, TAX LAWS SHOULD AT LEAST BE NEUTRAL.

NECESSARY POLITICAL SUPPORT BASE

MARKET INCENTIVES HAVE NOT BEEN EXTENSIVELY EMPLOYED IN THE UNITED STATES TO RESOLVE AIR QUALITY PROBLEMS. MARKET INCENTIVES CAN IMPROVE THE IMPLEMENTATION OF CONTROL MEASURES THAT ADDRESS BEHAVIOR AND LIFESTYLE CHANGES, YET BUILDING CONSENSUS WILL BE DIFFICULT. SCAG IS COMMITTED TO THE APPROACH OF MARKET INCENTIVES, AND REALIZES GOVERNMENT LEADERS AT ALL LEVELS, MAJOR ORGANIZATIONS AND INDUSTRY LEADERS, AND OTHERS MUST BE EDUCATED AND PERSUADED THAT SUCH SOLUTIONS ARE WORKABLE. IN SOUTHERN CALIFORNIA, THE USE OF MARKET INCENTIVES TO SUPPORT IMPLEMENTATION OF THE AQMP HAS RECEIVED BROAD-BASED SUPPORT FROM GOVERNMENT, INDUSTRY, AND THE ENVIRONMENTAL COMMUNITY. DEMONSTRATION AND PILOT PROGRAMS ARE NECESSARY TO HELP BUILD THE CONSTITUENCY ON THIS ISSUE.

MARKET INCENTIVE PROGRAMS

THE RANGE OF MARKET INCENTIVE PROGRAMS THAT CAN BE USED IN ENVIRONMENTAL CLEAN-UP AND POLLUTION CONTROL EFFORTS IS ONLY NOW BEING FULLY EXPLORED. THE FOLLOWING AREAS INDICATE POSSIBLE PROGRAMS WHERE THE ADVANTAGES OF TAPPING MARKET FORCES HAVE BEEN IDENTIFIED.

MARKET INCENTIVES - MOBILE SOURCES

IN THE SOUTHERN CALIFORNIA REGION, WORK COMMUTE TRIPS WOULD BE EXPECTED TO INCREASE FROM 7.3 MILLION (1984 BASE) TO 10.3 MILLION BY 201[illegible] UNDER A "BUSINESS AS USUAL" CONTINUATION OF HISTORICAL COMMUTING TRENDS. WITH IMPLEMENTATION OF THE PLANS, ESPECIALLY DEMAND MANAGEMENT, WORK COMMUTE TRIPS ARE PROJECTED TO FALL BY NEARLY THREE MILLION TRIPS DAILY, PRIMARILY THROUGH TELECOMMUNICATIONS, WORK-AT-HOME AND COMPRESSED WORK WEEK STRATEGIES, AND INCREASED RIDESHARING (CARPOOL, VANPOOL, BUSPOOL, AND LOCAL TRANSIT USE). MARKET INCENTIVE PROGRAMS ARE A NATURAL COMPONENT OF DEMAND MANAGEMENT BECAUSE COST AWARENESS MAY PERSUADE DRIVERS TO CHOOSE ALTERNATE MODES BECAUSE THEY ARE MADE MORE ATTRACTIVE WITH THE PROPER INCENTIVES.

SCAG'S REGIONAL MOBILITY PLAN EXPLAINS THE NEED TO TRIPLE TRANSIT RIDERSHIP DURING RUSH-HOUR PERIODS FOR JOURNEY-TO-WORK TRIPS, FROM THE CURRENT LEVEL OF 6% TO A LEVEL OF 19%. OVERALL, TOTAL TRANSIT TRIPS ARE TO INCREASE FROM JUST

UNDER THE CURRENT 3% LEVEL TO OVER 6% REGIONWIDE. SHARED RIDES, SUCH AS CARPOOLS, MUST INCREASE TO APPROXIMATELY 20% OF ALL TRIPS FROM THE CURRENT LEVEL OF UNDER 15%.

SCAG'S OWN CIRCUMSTANCES HELP TO SUSTAIN THE ARGUMENT THAT MARKET INCENTIVES CAN WORK TO IMPROVE RATES OF CARPOOL AND TRANSIT USE. IN 1989, THE SCAG OFFICES IN LOS ANGELES WERE RELOCATED TO A NEW SITE WHERE PARKING PRICES TRIPLED OVER THE PREVIOUS SITE. SCAG ALREADY HAD IN PLACE A BUS PASS AND CARPOOL PROGRAM, BUT THE RELOCATION, WITH ITS INCREASED PARKING RATES AND TRANSIT LINE AVAILABILITY, RESULTED IN A NEAR TRIPLING OF THE NUMBER OF STAFF WHO CHOOSE NOT TO COMMUTE ALONE.

IN GENERAL, DRIVERS/POLLUTERS SHOULD PAY FOR THE SOCIAL COST OF AIR QUALITY AND INFRASTRUCTURE USE. THE PERSON WHO DRIVES ALONE IN HIS AUTOMOBILE SHOULD BE MADE AWARE OF THE FULL COSTS ASSOCIATED WITH SUCH BEHAVIOR.

THE PREMISE OF CONGESTION MANAGEMENT AND PRICING IS THAT DRIVERS OF SINGLE-OCCUPANT CARS WHO USE CONGESTED FREEWAYS DURING PEAK COMMUTE PERIODS SHOULD PAY MORE FOR BEING ABLE TO DO SO, SINCE THAT BEHAVIOR IMPOSES SOCIAL COSTS, SUCH AS INCREASES IN AIR POLLUTION AND IN TRAVEL DELAYS, AND INCREASED DEMANDS ON HIGHWAY CAPACITY. YET CONGESTION PRICING IS NOT THE EQUIVALENT OF OPERATING TOLL ROADS. CONGESTION PRICING IS IMPLEMENTED DURING PEAK COMMUTE TIMES ONLY. A CONGESTION FEE WOULD ENSURE THAT INDIVIDUALS ARE MADE MORE AWARE OF THE SOCIAL COSTS ASSOCIATED WITH A DECISION TO DRIVE. IF THE TRIP IS NOT POSTPONED, IT SHOULD BE BECAUSE ITS VALUE TO THE INDIVIDUAL EXCEEDS THE ENVIRONMENTAL AND SOCIAL COSTS CREATED BY THE DRIVER. (JAMES MOORE, "LOCK THE GATES AND THE CASTLE CRUMBLES," THE LOS ANGELES TIMES, FEBRUARY 26, 1990.) IN THE AREA OF ROAD FEES, DEMONSTRATION AND PILOT PROGRAMS ARE NEEDED.

OBTAINING AND MAINTAINING THE DESIRED REDUCTION IN WORK TRIPS IN THE REGION THROUGH A COMBINATION OF REGULATORY AND MARKET-BASED APPROACHES, MAKES OTHER MARKET INCENTIVE PROGRAMS OBVIOUS. IT IS POSSIBLE THAT A SUCCESSFUL REDUCTION IN WORK TRIPS WILL LEAD TO MORE SPACE ON FREEWAYS. IF CONTROLS OVER NON-WORK AND TRUCK TRIPS ARE NON-EXISTENT, THEN TRIPS BY THESE USERS COULD ACTUALLY EXPAND, SO ADDITIONAL MARKET INCENTIVE APPROACHES WOULD BE INDICATED.

TRUCK TRAFFIC ALREADY RESPONDS TO SOME MARKET FORCES. THE BULK OF TRUCK TRIPS IN MUCH OF SOUTHERN CALIFORNIA VOLUNTARILY AVOID PEAK CONGESTION PERIODS. THOUGH TRUCK REGULATIONS ARE NOT YET IN PLACE IN VARIOUS JURISDICTIONS OF THE SOUTHERN CALIFORNIA REGION, IT IS CLEAR THAT TRUCK DRIVERS AND TRUCKING FIRMS HAVE REACTED TO CONGESTION AND HAVE ACTED TO MINIMIZE THEIR COSTS BY AVOIDING TRAFFIC DELAY AREAS.

WITH MARKET INCENTIVES, EMPLOYEES WOULD BECOME AWARE THAT PARKING PAID FOR BY THE EMPLOYER IS NOT TRULY "FREE." RATHER, SUBSIDIZED PARKING AFFECTS SALARY LEVELS AND CARRIES INDIRECT SOCIAL COSTS ASSOCIATED WITH COMMUTING. BY CREATING ECONOMIC INCENTIVES TO ENCOURAGE MORE EFFICIENT USE OF AUTOMOBILES, AIR QUALITY BENEFITS CAN ULTIMATELY BE REALIZED. PARKING PERMITS THAT ALLOW VEHICLES TO PARK AT SPECIFIC EMPLOYMENT CENTERS, BUILDING FEES THAT RISE ACCORDING TO THE NUMBER OF SPACES PER SQUARE FOOT OF NONRESIDENTIAL LAND USE (FOR EXAMPLE, FEES IN EXCESS OF THREE SPACES PER THOUSAND SQUARE FEET OF OFFICE BUILDING) WOULD INCREASE DRAMATICALLY, AND PARKING FEES FOR DIFFERENT ZONES WITHIN A JURISDICTION ARE SAMPLES OF WHAT CAN BE IMPLEMENTED LOCALLY.

ONE SUCCESSFUL MARKET-BASED PARKING INCENTIVE PROGRAM WAS IMPLEMENTED BY COMMUTER COMPUTER -- SOUTHERN CALIFORNIA'S REGIONAL RIDESHARING AGENCY, WHICH SUBSIDIZED EMPLOYEE PARKING AS AN EMPLOYEE BENEFIT PRIOR TO 1986. THE COST FOR ONE PARKING SPACE WAS $57.50. AVERAGE VEHICLE RIDERSHIP WAS 1.2 AND THE PREDOMINANT TRAVEL MODE OF EMPLOYEES WAS SOLO DRIVING. WHEN COMMUTER COMPUTER STOPPED SUBSIDIZING PARKING IN 1986 FOR ITS EMPLOYEES, IT CONVERTED THIS BENEFIT INTO A CASH TRAVEL ALLOWANCE FOR EACH EMPLOYEE, AND BEGAN TO CHARGE FOR PARKING. THE RESULT WAS A DRAMATIC MODE SHIFT WHEREBY AVERAGE VEHICLE RIDERSHIP INCREASED TO 1.8, AND RIDESHARING BECAME THE PREDOMINANT TRAVEL MODE. EXPERIENCE DEMONSTRATES THAT WHEN EMPLOYEES UNDERSTAND AND ARE CHARGED THE FULL COST OF DRIVING BEHAVIOR AND ARE GIVEN OPPORTUNITIES TO LOWER THEIR TRAVEL COSTS THROUGH RIDESHARING OR TRANSIT USAGE, SOLO DRIVING CAN BE SIGNIFICANTLY REDUCED.

ANOTHER OPPORTUNITY FOR USING MARKET INCENTIVES IS IN PRICING OF VEHICLE EMISSIONS BASED UPON THE VEHICLE USE. COSTS WOULD VARY BY THE NUMBER OF MILES DRIVEN AND VEHICLE EMISSIONS, WITH CHARGES BORNE BY THE OWNER/USER.

MARKET INCENTIVES - GROWTH MANAGEMENT

IN ORDER TO SIMULTANEOUSLY ACCOMMODATE NEW RESIDENTS WITHIN THE SCAG REGION AND TO MITIGATE THE NEGATIVE IMPACTS OF POOR AIR QUALITY, MANAGEMENT OF GROWTH IS NECESSARY AND SHOULD INCLUDE EFFORTS TO ACHIEVE BETTER JOBS-HOUSING BALANCES. A CONSEQUENCE OF JOBS-HOUSING IMBALANCE IS THAT THE VEHICLE TRIPS AND AIR QUALITY IMPACTS ARE SIGNIFICANT. DEPENDING ON THE AMOUNT OF IMBALANCE, WORKERS MAY BE TRAVELING CONSIDERABLE DISTANCES TO THEIR JOBS. USING MARKET INCENTIVE BASED GROWTH MANAGEMENT TECHNIQUES, JOBS-HOUSING IMBALANCES THROUGHOUT THE REGION CAN BE SUBSTANTIALLY MITIGATED WITH A SMALL SHIFT IN NEW HOUSING UNITS AND NEW JOBS.

MARKET INCENTIVES ARE CONSIDERED A PRIMARY IMPLEMENTING MECHANISM FOR ACHIEVING JOBS-HOUSING BALANCE. DEVELOPERS, HOME-BUYERS, EMPLOYEES, EMPLOYERS, AND LOCAL GOVERNMENTS MUST COOPERATE TO ASSURE THAT AIR QUALITY AND CONGESTION COSTS ARE REFLECTED IN HOUSING AND EMPLOYMENT DECISIONS.

MARKET INCENTIVES - STATIONARY MEASURES

A PROGRAM FOR TRADING EMISSION PERMITS FOR STATIONARY SOURCES CAN BE ESTABLISHED AS AN ECONOMIC INCENTIVE TO POLLUTERS. "TRADEABLE" PERMIT SYSTEMS ESTABLISH THE TOTAL ALLOWABLE LEVELS OF POLLUTION AND AUTHORIZE FIRMS TO CONDUCT MARKET EXCHANGES OF PERMITS.

ADDITIONALLY, "IN LIEU" FEES CAN BE CHARGED WHEN THE COSTS TO A SMALL FIRM FOR IMPLEMENTING A GIVEN CONTROL ARE GREATER THAN THE AVERAGE COST BORNE BY THE INDUSTRY. FIRMS COULD CHOOSE TO AVOID THE CONTROL BY PAYING AN APPROPRIATE CHARGE. FEES MUST BE SET HIGH ENOUGH TO COVER AVERAGE CONTROL EQUIPMENT COSTS AND COULD ALSO PROVIDE MONEY FOR REGIONAL AGENCIES INVOLVED IN IMPLEMENTATION AND IN REGULATORY PROGRAMS THAT OTHERWISE WOULD LACK FUNDING. SUCH PROGRAMS ARE EFFECTIVE BECAUSE POLLUTERS PAY THE COSTS OF EMISSIONS, MAKING IT ADVANTAGEOUS TO CLEAN UP.

ANOTHER APPROACH INCLUDES CREATING AN EMISSION REDUCTION TRUST, A "BANK" FOR EMISSION REDUCTION FEES COLLECTED FROM ALL EMISSION SOURCES OTHER THAN THOSE ASSOCIATED DIRECTLY WITH AUTOMOBILE USE. THE FEES COLLECTED WOULD BE USED TO HASTEN PHASE-OUT OF EMISSION SOURCES THROUGH INCENTIVE BUY-OUT PROGRAMS AND GRANTS AND LOANS FOR EQUIPMENT MODERNIZATION AND FLEET TURNOVER PROGRAMS. EMISSION REDUCTION FEES WOULD BE SET AND THEN MODIFIED PERIODICALLY TO PRODUCE REVENUES SUFFICIENT TO ACHIEVE AQMP GOALS.

MARKET INCENTIVES - NEW FACILITIES AND TECHNOLOGIES

CURRENT TECHNOLOGIES ARE NOT ADEQUATE TO BRING THE REGION INTO CONFORMITY WITH AIR QUALITY STANDARDS. MARKET INCENTIVES ARE NEEDED TO ENCOURAGE ENTREPRENEURS AND THE PRIVATE SECTOR TO MAKE BETTER DECISIONS, REINFORCING THE NEED TO CONDUCT RESEARCH ON NEW FACILITIES AND TECHNOLOGIES TO BRING SOUTHERN CALIFORNIA INTO COMPLIANCE WITH ENVIRONMENTAL STANDARDS.

CONCLUSION

SCAG IS COMMITTED TO PROVIDING EVERY POSSIBLE OPPORTUNITY TO ASSIST THOSE IN THE REGION IN CARRYING FORWARD THE WORK OF THE FOUR PLANS. SCAG, REPRESENTING LOCAL GOVERNMENTS, IS A NEXUS FOR FORMULATING REGIONAL SOLUTIONS, AND JUST AS IMPORTANT, CAN BE THE NEXUS FOR MAINTAINING THE NECESSARY COMMITMENT TO SUCH REGIONAL SOLUTIONS IN THE FUTURE.

IMPROVEMENTS IN AIR QUALITY MUST BE ACHIEVED AND WILL BE POSSIBLE ONLY THROUGH SUCCESSFUL IMPLEMENTATION EFFORTS. THE AVAILABILITY OF MARKET INCENTIVES INCREASES THE LIKELIHOOD THAT THE CHALLENGE CAN BE MET IN SOUTHERN CALIFORNIA OVER THE COMING DECADES. MARKET INCENTIVES WORK TO BRING THE MESSAGE OF THE AIR QUALITY MANAGEMENT PLAN TO BROADER SEGMENTS OF THE POPULATION. IMPLEMENTATION IS ENHANCED AS THE AWARENESS OF ALL SOUTHERN CALIFORNIANS REGARDING THE IMPORTANCE OF A CLEANER ENVIRONMENT IS HEIGHTENED, AND THE COSTS ASSOCIATED WITH BEHAVIOR ARE CHARGED.

SOLUTIONS IDENTIFIED FOR CLEANING THE REGION'S AIR ARE COMPLEX AND

FAR-REACHING. THE FOUR PLANS -- THE AIR QUALITY MANAGEMENT PLAN, THE REGIONAL MOBILITY PLAN, THE GROWTH MANAGEMENT PLAN, AND THE REGIONAL HOUSING NEEDS ASSESSMENT -- ARE THE RESULT OF FIVE YEARS OF INTENSIVE AND COMPREHENSIVE REGIONAL PLANNING AND INCORPORATE THE EFFORTS AND CONTRIBUTIONS OF HUNDREDS OF PEOPLE -- ELECTED OFFICIALS, PUBLIC AGENCIES, PRIVATE INDUSTRY GROUPS, ACADEMICIANS, AND THE GENERAL PUBLIC.

IN ORDER TO CONTINUE TO MEET THE OPPORTUNITIES AND CHALLENGES PROVIDED BY THE TREMENDOUS GROWTH PROJECTED FOR THE SCAG REGION, IT IS TIME FOR EVERYONE -- CITIES, COUNTIES, THE STATE AND FEDERAL GOVERNMENTS, PRIVATE CITIZENS, AND THE PRIVATE SECTOR -- TO BUILD ON THE PARTNERSHIPS INITIALLY FORGED IN DEVELOPING THE PLANS AND TO GET TO THE TASK OF ADDRESSING CURRENT PROBLEMS AND IMPROVING THE FUTURE.

CONGRESS CAN HELP BY REMOVING ECONOMIC DISINCENTIVES -- SUCH AS INEQUITIES IN THE TREATMENT OF EMPLOYEE PARKING AND BUS PASS PROGRAMS, DIRECTING EPA TO ALLOW FOR THE NEEDED FLEXIBILITY OF MARKET INCENTIVES IN REGULATORY PROGRAMS, AND ENCOURAGING DEMONSTRATION PROJECTS TO PROVE THE SUCCESS OF MARKET INCENTIVE PROPOSALS.

THANK YOU.

JUDY WRIGHT
Councilmember, City of Claremont, California
Chair, Market Incentives Subcommittee of Growth Management
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STATEMENT OF U.S. REPRESENTATIVE GERRY E. STUDDS
BEFORE THE
COMMITTEE ON WAYS AND MEANS

March 6, 1990

I appreciate the opportunity to testify in support of proposals to institute a fee on the discharge of pollutants into the coastal and other waters of the United States. Such a fee is needed, and in my judgment should be used, to help our cities and towns to restore the health and safety of our nation's lakes, rivers, bays and sounds.

I believe that those who discharge pollutants into the marine environment should be required to bear the costs to society of that action. And I believe they should be given an incentive to reduce the amounts, and limit the toxicity, of the materials they discharge. Both purposes would be served by the creation of a federal system of effluent fees.

The fact is that if we do not create such a system, we might as well surrender in the battle against coastal pollution; we might as well resign ourselves to dirtier water, dirtier beaches, less productive estuaries, lost recreational opportunities and declining fisheries resources; we might as well sit back and watch more and more areas once used for swimming and fishing transformed into toxic waste dumps that will take years and billions of dollars to clean up.

Mr. Chairman, the pollution of our coastal waterways is an urgent national problem. Candidate George Bush said so over and over again during the 1988 Presidential campaign. Unfortunately, we have begun to act as if it is simply a state and local problem, of no concern to those of us at the federal level. I think--and have thought from the beginning--that this is a serious mistake.

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Since the start of the last decade, we have been asking the states to do more and more to protect water quality. We have done so in the middle of a boom in coastal development that has placed enormous additional pressure on nearshore environments. We have done so without providing them much in the way of technical help. And we have done so while walking away from the problem ourselves.

Since 1980, EPA's water quality programs have declined by more than 40%; and EPA's support for state programs has declined by 60%. In addition, EPA's practice of providing management setasides under the sewer construction program will soon end--depriving states of another $60 million a year.

Why are we doing this?

We aren't saving money. Every nickel we save today will cost a dollar's worth of cleanup tomorrow.

We aren't sticking up for state's rights. We're still telling states what to do. It's just that we're making them pay a greater share of the bill.

And we aren't solving the problem. From Boston Harbor to Puget Sound, from the Great Lakes to river systems throughout our country, degraded water quality remains a serious and growing and increasingly expensive concern.

What can we do about it? I am the sponsor of H.R. 2647, the Coastal Defense Initiative (CDI). That bill would raise about $110 million a year through an effluent fee on polluters, and would use that money to help states and local communities protect the quality of their coastal waters. It is, in my judgment, a very good start--but it is only a start.

The fee in CDI would help us to manage the water pollution problem. It would help us to set the right standards, draft the right regulations, monitor water quality and plan for the future.

But it would not solve the other half of the problem we face today. It wouldn't pay to clean up a harbor that is already polluted, or to build a new sewer treatment plant or provide the billions we need to control pollution from combined sewer overflows.

Decades of neglect, coupled with decades of growth, have left us with an extremely expensive mess. Officials in the previous Administration justified federal budget cuts on the grounds that the problem of water pollution was being solved--the job was almost done. Of course, these same officials saw no need to regulate federal savings and loans.

The job of controlling coastal pollution is not done. Far from it. EPA's most recent estimate of needed new sewer construction is $83 billion, and that number includes only a fraction of the cost of correcting combined sewer overflows in the systems of more than 1200 communities around the country. An association of local governments puts the total sewer construction pricetag at more than double the EPA figure--or $170 billion.

I don't believe the federal government should be walking away from this problem. I think we should be working to solve it.

Obviously, given the costs, we will need new sources of revenue. And I believe that revenue should come from the polluters who are the source of the problem. The only exception I make is for municipalities. Local governments need our help; they do not need a new bill for effluent discharges from Uncle Sam.

Now, as I said, the bill I have introduced, CDI, would raise roughly $90 million to help manage the pollution problem.

How much could be raised if the goal were to restore federal support for sewer construction?

We asked that question of the Congressional Budget Office (CBO) and we were told that a properly designed effluent fee system

could generate more than $2 billion yearly. According to CBO, this amount could be raised by a charge of fifty cents per pound of biological oxygen demand (or, BOD, an indicator of conventional water pollutants) imposed on wastewater dischargers in coastal and Great Lakes counties alone. If that charge were applied nationwide, and not just in coastal areas, the revenues could reach $3 billion annually.

In my judgment, such a fee is reasonable and even if municipalities are exempted, as I believe they should be, it's real money.

I would note that CBO did not estimate how a charge of this sort will affect dischargers' behavior, but it is quite likely that some will choose to reduce or eliminate harmful discharges, in order to avoid paying the charge. A slightly higher charge of perhaps $0.70 per pound of BOD would create an even stronger incentive not to pollute.

Discargers' behavior could also be influenced by the criteria used in designing the fee. One option would be to use the BOD. Another would be to develop a fee tied to the level of toxicity--considering, for example, whether heavy metals are present. A system tied to the level of toxicity would be more complicated, but it would also provide a stronger reason for polluters to reduce the hazards of the materials they discharge.

Finally, I will just mention a couple of other reasons why an effluent fee should be considered. First, the means for collecting such a charge already exists, in the form of Clean Water Act permits which are required of all who discharge into our nation's waters. And second, wastewater effluent fees have been used and used successfully overseas, particularly in West Germany and the Netherlands.

Mr. Chairman, in closing, let me just say that I think effluent fees make sense from the point of view of the budget and of the environment; I think they reflect a proper role for the federal

government in responding to an urgent national problem; I think they would be welcomed by our states and local communities; and I hope they will be considered seriously by your Committee this year.

By the way, my Subcommittee on Fisheries and the Environment has a mind-numbing amount of background material on this subject, and we would be delighted to unload some of it on you or to provide any other help we could. I've provided two attachments to my testimony which elaborate on many of the basic issues underlying this topic and which may be useful to the Committee.

Thank you once again for the opportunity to submit this statement.

Statement of
W. David Montgomery
Assistant Director
Natural Resources and Commerce Division
Congressional Budget Office

before the
Subcommittee on Fisheries and Wildlife Conservation
and Environment
and the
Subcommittee on Oceanography and Great Lakes
U. S. House of Representatives

October 19, 1989

NOTICE

This statement is not available for public release until it is delivered at 10:00 a.m. (EDT), Thursday, October 19, 1989.

Mr. Chairmen and Members of the Subcommittees, I appreciate the opportunity for the Congressional Budget Office (CBO) to participate in today's hearing and to share with you some of our preliminary views concerning the use and design of "environmental charges" in general and the specific proposals contained in H.R. 2647. Because we are only in the early stages of responding to your formal request for information and analysis concerning H.R. 2647 and other legislative proposals involving environmental charges, our comments this morning are preliminary. Nevertheless, as a result of our work on a soon-to-be-completed study for the Senate Committee on Environment and Public Works and our analysis of various deficit reduction options concerning environmental charges, we have gained some insights that I hope you will find useful.

My comments will touch on three questions relating to the revenue and spending provisions of H.R. 2647:

- What are the relative advantages of environmental charges (as proposed in H.R. 2647) as funding mechanisms for environmental protection programs?

- What factors and kinds of data are important to consider in designing environmental charge programs? and

- What are the relative merits of trust funds (similar to the fund proposal contained in H.R. 2647) as mechanisms for dispensing revenues for environmental programs?

EFFLUENT CHARGES AS REVENUE SOURCES

Economists and others have long supported the use of environmental or effluenl charges in designing and carrying out environmental protection programs. Their interest has largely been based on the economic incentives for reducing pollution created by fees or taxes.[1] From this point of view, an ideal charge would be one directly related to the damage caused by pollution. Pollution would be reduced as polluters found it in their economic self-interest to control their emissions into the air or water, for example, rather than pay the environmental charge. Therefore, the resulting levels of cleanup would be accomplished more cheaply (or more "efficiently") than the current and most commonly used alternative methods that require the use of technology to control pollution.

Recently, economists and lawmakers have found the revenue raising potential of effluent charges of particular interest. As the perceived need for expanded environmental control programs has collided with the realities of limited budgetary resources, effluent charges are viewed as a means of supplementing traditional revenue sources and shifting the costs of pollution control to those parties who are responsible for it. States have been particularly active in adopting revenue programs that rely, in varying degrees, on fees or charges assessed on polluters. While many of these programs might not meet the definition of an ideal effluent charge, they do embody the basic premise of placing the fiscal burden of environmental protection programs on commercial, industrial, or individual sources of pollution rather than the general taxpayer.

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1. We do not address here the issue of whether effluent charges would be classified as taxes from a budgetary or political point of view.

As compared with other sources of revenue for environmental program programs, effluent charges have some distinctive features.

- To the extent that effluent charges substitute for other forms of taxation, they may not have the same distorting effects associated with taxes on income, capital investment, or other common bases for taxes in the United States and thus may result in lower overall costs to the economy;

- To the extent that the charge system encourages pollution reduction, environmental fees or taxes might result in lower overall costs to the nation from environmental damage; and

- To the extent that the costs to federal and state governments of implementing environmental programs are paid through general revenues and thus borne by the general taxpayer, effluent charges would shift this burden to polluters. While an allocation of costs among polluters may be attractive on grounds of equity or fairness, one could also construct a case for general taxpayers bearing the costs since they are the beneficiaries of the pollution control programs.

Fees on pollution as economic incentives or revenue sources are not necessarily inconsistent concepts, but they do have different implications for the specific charge or level of fee. Relatively low charges per unit of pollution may provide little economic incentive to reduce pollution, but they might offer a reliable revenue source. Most sources of pollution in the United States are currently subject

to regulatory controls that have resulted in higher costs of controlling pollution. An effluent charge that is lower than this "marginal cost of control" would not result in efforts by the polluter to reduce emissions; it would simply be paid. An effluent charge that exceeds the per-unit regulatory control costs might generate substantial reductions in pollution, but result in very low revenues. The choice of a specific charge or fee level, therefore, depends on the primary motivation for the charge.

Effluent charges have not been significantly used in environmental programs at the federal level. Policy analysts have felt that as an economic incentive, effluent charges are uncertain or unpredictable in actually reducing levels of pollution. Most federal environmental programs rely on more predictable regulatory controls. As a revenue source, some polluters have argued that a charge for pollution on top of their regulatory control costs is overly burdensome and constitutes "double jeopardy." Most recent proposed legislation involving environmental charges focus on their revenue potential and assume that they will be used in addition to existing regulatory controls.

DESIGNING AN EFFLUENT CHARGE

In general, an effluent charge is defined by its magnitude (that is, how big should the charge be per unit of pollution?) and its basis (on what or who will the charge be applied?). These two broad concepts of basis and magnitude embody a number of more narrow concerns that will dictate the economic, political, and design characteristics of any specific charge. For example, a uniform or flat charge placed on all polluters might be overly burdensome to small businesses or some other

special class of polluters. Further, charge systems might create a set of unexpected or unanticipated incentives. For example, a charge placed on one specific pollutant might encourage greater discharges of another pollutant from the same source.

Some of the more important decisions concerning the basis and magnitudes of fees on pollution can be illustrated by specific reference to the proposal for charges outlined in H.R. 2647.

National Coastal Effluent Charge System

H.R. 2647 calls for the development by the U.S. Environmental Protection Agency (EPA) of an effluent charge system to be applied to all dischargers of wastewater into rivers and waterbodies on U.S. coasts and the Great Lakes Basin. Within various constraints, the exact design of the charge would be left to the discretion of EPA. The proposed legislation does, however, recognize and alerts EPA to several important decisions on design that they may want to consider. Some of these can be demonstrated using preliminary data CBO has gathered on discharges of wastewater by coastal states.[2] This early exercise has also helped to identify some of the weaknesses and limitations in the existing data.

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2. The wastewater flow estimates used here for coastal regions are based primarily on data contained in the National Coastal Pollutant Discharge Inventory (NCPDI) maintained by the National Oceanic and Atmospheric Administration. The Great Lakes flow estimates was imputed from aggregate data (provided by the EPA Region V office) regarding the number of facilities that directly discharge into the Great Lakes and the associated wastewater flow.

Basis of the Charge. The areas that would be included in the fee system include 22 states; the east, west, and gulf coasts; and 6 states in the Great Lakes region.[3] These states are responsible for approximately 130 billion gallons per day (bgd) of wastewater discharges into coastal waters. While a very simple strategy for charges might levy a set fee on each gallon of wastewater discharged per day, the proposed legislation provides for several important factors that might be considered in designing a national strategy of charges of effluents.

- Twenty-two of the 28 states operate their own water pollution control programs under EPA approval--the so-called delegated states. The legislation allows these states to develop their own systems of fees and to keep the revenues. Federal revenues would be limited to the 31 bgd associated with the six states (Louisiana, Florida, Massachusetts, Maine, New Hampshire, and Texas) where the water pollution control program is run by the federal government.

- Approximately 12,000 individual facilities are responsible for discharges of wastewater in the coastal areas and Great Lakes. 1,800 of these, however, are classified as major dischargers accounting for 85 percent of the total wastewater. 10,400 are minor sources and only contribute 15 percent of the total. Eliminating the minor sources from the charge scheme would reduce the number of collection points without substantially reducing the basis for the charge. To the extent that the minor sources are also small operations, a system of differing charges

3. There are actually eight Great Lakes states, but Pennsylvania and New York are already included in the coastal states group.

might serve to reduce any adverse impacts on small businesses. Figures 1 and 2 show the regional breakdown of the number of facilities discharging wastewater and associated discharges.

- Of all wastewater discharges, 77 percent are directly discharged into water bodies by electric utilities, 14 percent by other industrial sources, and 9 percent by Publicly Owned Treatment Plants (POTWs) operated by municipal governments. Of 12 bgd of POTW discharges, 14 percent results from industrial sources that use the POTW (indirect industrial discharges). The remainder of the POTW wastewater is from municipal sources. As the proposed legislation seems to acknowledge, there is a legal question as to whether the federal government can tax the activities of municipal operations. But if discharges to POTWs are not taxed, it creates a strong incentive to shift wastewater flows to POTWs. This incentive would erode tax revenues and possibly increase the need for POTW construction. Under the proposal, POTWs can impose, collect, and keep revenues from a charge placed on the wastewater by POTWs from industrial sources. Potential revenues would thus be reduced by a proportionate amount. The incentive under such a scheme of charges, however, of avoiding the fee by shifting wastewater flows to POTWs might also be reduced. Figure 3 shows the relative contribution of different sources of total wastewater by region.

- Not all discharges of wastewater are pollutants. In fact, a large fraction of total discharges are basically water or what is called "nonprocess flows" that may be much less damaging to the environment than the

process flows that may contain the bulk of actual pollutants. (The electric utility industry is most striking in this regard--of the 99 bgd discharged by this industry, less than 2 bgd is actual process wastewater.) Limiting the charge to process waters would substantially lower the revenue basis of the charge. It might also, however, eliminate the incentive to avoid a charge by reducing the nonprocess but not the process flows. The quantity of process wastewater discharged by various sources is shown in Figure 4 by region.

The proposed legislation also allows for a system of charges that distinguishes different types of pollutants in terms of their toxicity or environmental harm. From a standpoint of economic efficiency, this is a preferable approach. In fact, an ideal strategy would not be based on flows at all, but would deny a charge on each unit of actual pollutant discharged. A strategy of differing charges--higher per unit charges for more damaging pollutants--would have little impact on the potential revenue base and would increase the incentive for dischargers to control the most harmful pollutants. If charges are not differentiated on this basis, sources of pollution can reduce their tax by simply reducing the flow of wastewater and increasing the concentration of pollutants. Of course, a more comprehensive data base on discharges of individual pollutants would be necessary to assess and carry out this kind of strategy. The EPA data base probably has enough information in raw form to assess differentiated charges.

The preceding discussion presumes that data on discharges from every source of pollution that would be subject to the charge exist and that this information would be available annually. The data which we used only cover one point in time

and is a mixture of actual discharges, imputed values, and expected discharges based on permitted levels. While alternative data bases may soon be available (as a result of ongoing EPA and NOAA efforts), it is possible that there will not be one "ideal" set consistent across all coastal states. One possible alternative, again recognized in the proposed legislation, would be to base the charge on levels of discharge that are provided for in the water pollution permits that every industrial source of water pollution must have. While these levels may be more or less than actual discharges, charges based on permits would simplify the accounting of an effluent charge system.

Magnitude of the Charge. I have already discussed how the level of an effluent charge will affect the goals of the charge system. A relatively low per unit charge might yield a steady and secure source of revenue but provide little economic incentive to reduce pollution. A higher rate of charges might encourage pollution reduction, but have an increasingly uncertain potential for raising revenue. Of course, other considerations might affect the choice of a charge level including, for example, the relative burden imposed on the polluters and their ability to pay.

The data available to us at this point are not particularly useful for illustrating the point at which a levels of charge becomes an economic incentive and changes industrial practices. Ideally, one should have data on the cost to a polluter of controlling its discharges one unit or one increment beyond its current levels of control--marginal control costs. Charges set below this level would presumably carry little incentive to reduce pollution. We have not, however, been able to identify a source for this kind of data. Early EPA studies of controlling water pollution focused on costs of achieving set levels of control based on specific requirements for control technology. If most industrial polluters have already met these levels of

control, this kind of data does not tell us much about the costs of a higher level of control. Some analyses of control costs for POTWs may provide a basis for determining the marginal cost of wastewater treatment, but these studies need to be evaluated further.

An alternative, if less preferable, means of selecting the level of charges would involve choosing a revenue target and prorating this amount by the basis for the charge. For example, H.R. 2647 adopts a goal for gross annual revenue of $100 million in both federal and state collections. This target could be achieved by assessing an annual charge of 1.4 cents per gallon per day on the expected daily discharges into coastal waters from all direct and indirect sources of process wastewater. Under such a charge, for example, a source that averages 1 million gallons of process wastewater per day would pay $14,000 a year. The regional breakdown of estimated gross revenues associated with a charge of this level is shown in Figure 5.

On the basis of this data alone, it is difficult to evaluate the impact or burden of an effluent charge at the levels discussed here. Figure 6 shows which industrial categories are likely to pay the bulk of the total charge. This information is not sufficient, however, to determine whether individual firms within these industries would face financial hardship as a result of the charge. Furthermore, there are different perspectives on how best to measure or represent financial hardship. More insight could be gained from comparing of the charge payments with various financial statistics for the industrial sectors (for example, charge payments as a percent of net profits) or analyzing the economic impact on specific industries.

CBO's level of confidence in these rough estimates is mixed. Since we know so little about the marginal costs of water pollution control, we can say very little about how polluters would respond to the charge--would they pay or simply reduce their discharges? The data base on discharges is another source of uncertainty. If the charge was predicated on the actual terms of that permit, however, and assuming that permit data is centrally collected at the state or federal level, this uncertainty could be significantly reduced. Nevertheless, some argue that many industrial dischargers routinely operate below their permitted levels of discharge for some effluents. If this is true, a charge based on the terms of the permit might result in some industrial sources asking for revised permits that more accurately reflect their actual level of discharge. Over time, the basis for the charge might therefore be reduced.

EFFLUENT CHARGES AND TRUST FUNDS

Revenues collected by the federal government under the proposal for effluent charges in H.R. 2647 would be deposited in a trust fund established in the Treasury and entitled the "Coastal Defense Fund." (The trust fund would also receive other funds designated for existing coastal protection programs and interest payments from the Treasury's general fund on any unobligated balance in the trust fund.) While the merits of an effluent charge system for raising revenues and a trust fund program for spending those revenues are largely independent, previous analyses of federal trust funds by CBO suggest two general points that deserve mention.

- If spending from the trust fund is direct spending authority and not subject to annual appropriations, there is a risk that Congressional oversight and control of the fund's expenditures might be lost. For example, if H.R. 2647 were to achieve all of its coastal cleanup goals, funds would still be transferred into the trust account and grants could continue to be made. Without further Congressional action, spending could continue even when the need for the program disappeared.

- The major advantage of coupling the two tasks--implementing a system of effluent charges and establishing a trust fund--is to clarify the link between revenue sources and the benefits of the coastal protection programs to be funded. If spending from the trust fund is subject to all of the usual Congressional oversight and appropriation processes, the trust fund would serve principally as an accounting device. It would be easier to monitor the relationship between the level of program costs and the system of charges. Although clear accounting in the trust fund may be complicated by the existence of other revenue sources less closely related to effluent levels than charge scheme. There is no other particularly strong economic or budgetary rationale for connecting the proposed effluent charge with a dedicated trust fund. Program costs and charge revenues could always be compared outside the formal budget accounts.

- The advantage of better accounting may be offset, in part, by the tendency under trust fund financing to focus on fund balances and to overlook absolute spending priorities. No guarantee exists that the

trust fund will have enough in it to meet agreed upon program needs. Thus, there could be a mismatch between funds needed or demanded and funds generated by the effluent charge.[4] The potential for a mismatch under the proposal in H.R. 2647 may be particularly real. States with delegated programs are eligible for grants from the fund but they do not need to deposit revenues from their own program of effluent charges in the fund. Thus, the revenue basis of the fund is limited relative to possible levels of demand for spending from the fund.

CONCLUSIONS

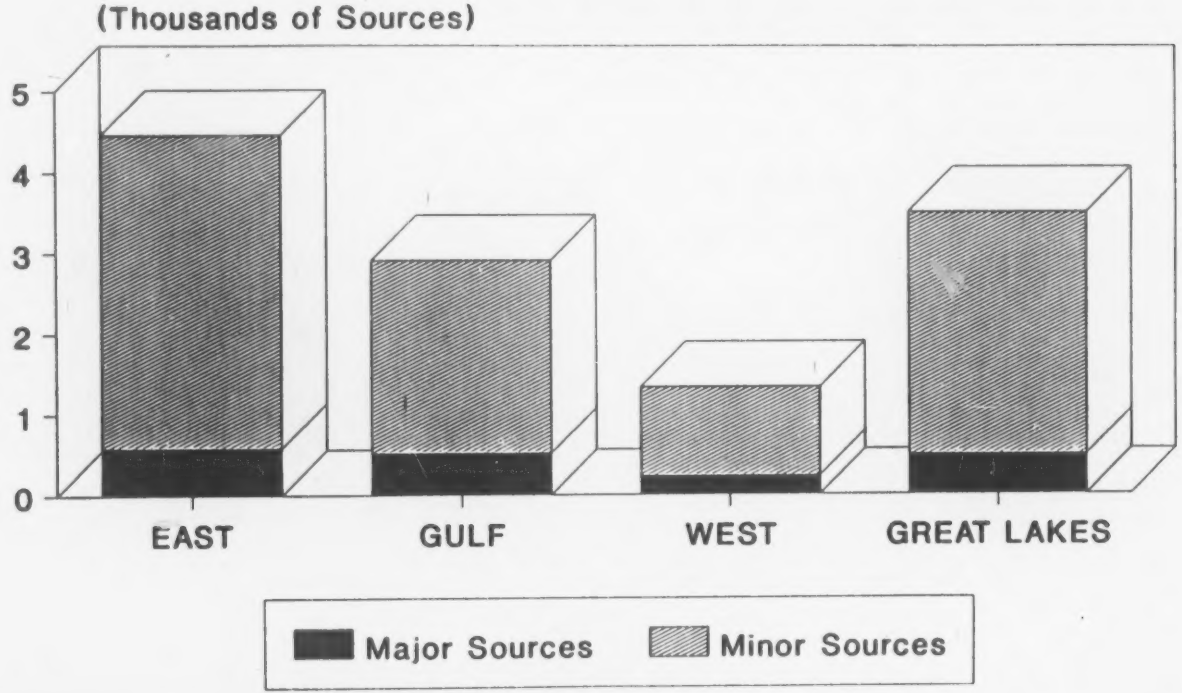
Fees on pollution, properly designed, provide an incentive to reduce pollution and a source of funding for programs. However, unlike some user fees--for example, admission fees to National Parks--they do not provide information on the value of improving environmental quality, because the direct beneficiaries of the improved environmental quality do not pay the charge. A comparison of projected revenues with expected costs cannot be a guide to the value of the increased expenditure. Thus, the merits of the programs funded by the effluent charge must be determined by factors other than the availability of trust fund balances.

An effluent charge can also provide information on the cost of reducing pollution. First, the program for effluent charge could be designed to provide more

4. Alternatively, too much money could be generated by the effluent charge scheme leading to fund surpluses.

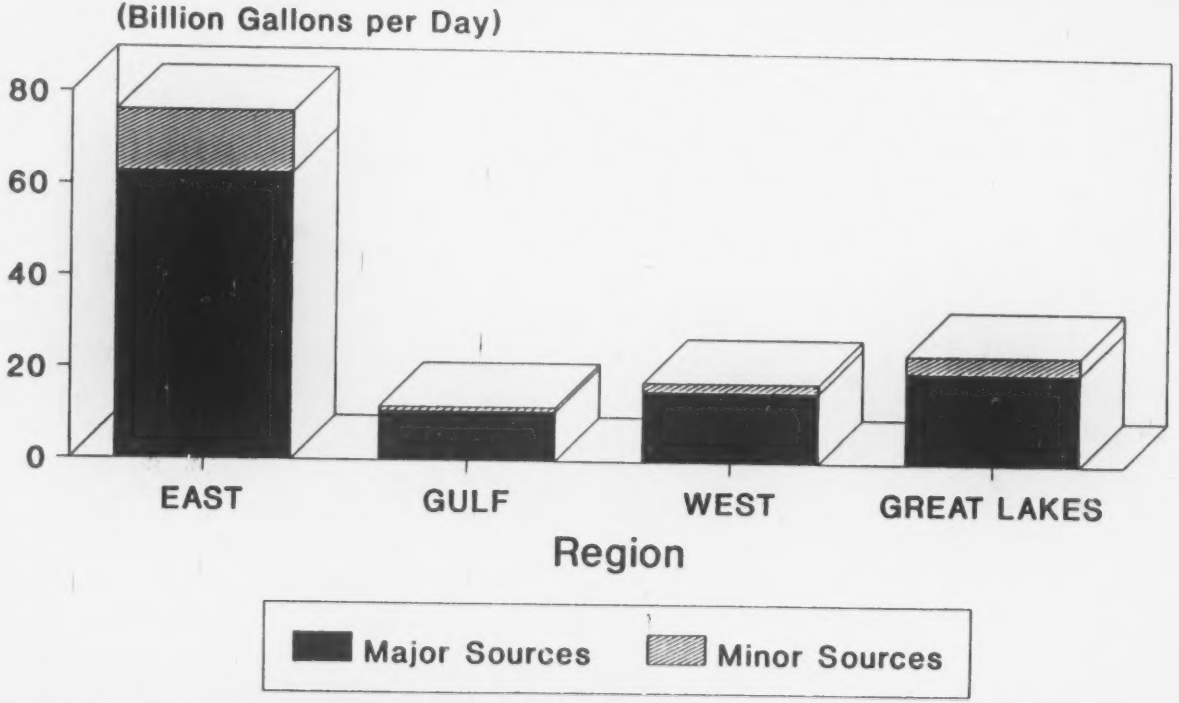
accurate and useful data on the volume and amounts of pollution being discharged --for example, from reporting by businesses that pay the charges. In addition, phasing in the charge could provide information on the cost of controlling pollution beyond the current standards, since businesses paying the charge would initiate controls on pollution beyond those required by current regulations when the cost of paying the charge exceeds the cost of reducing pollution.

Figure 1. Number Of Major and Minor Wastewater Sources by Region



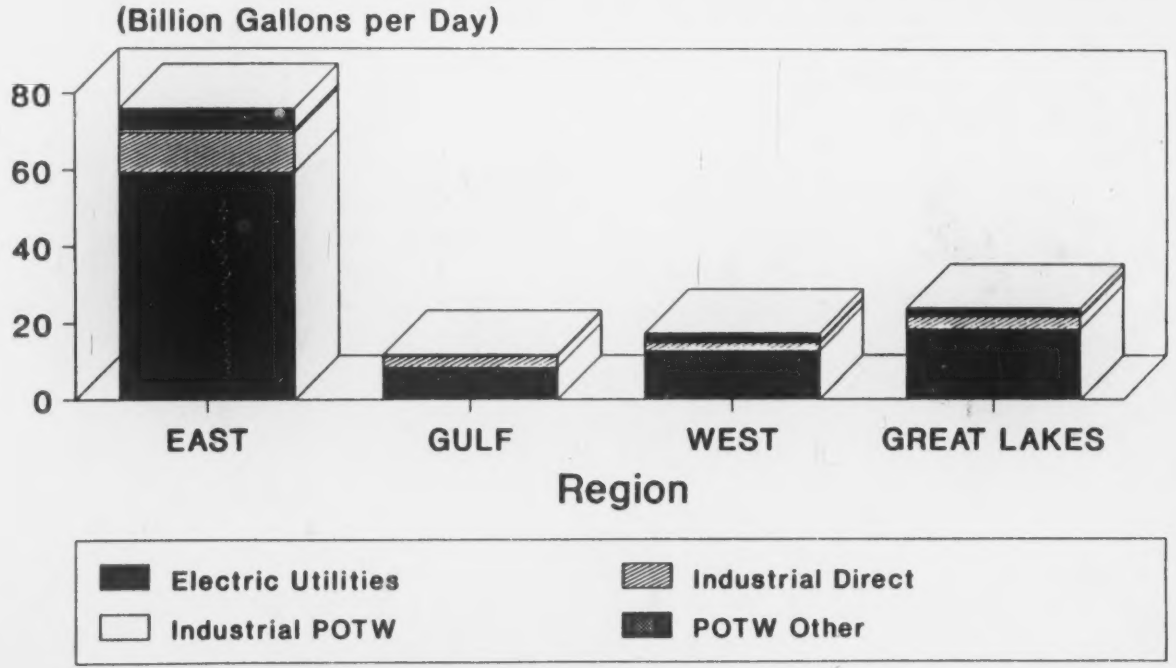
Source: Congressional Budget Office, based on NOAA and EPA data.

Figure 2. Total Wastewater Flows From Major and Minor Sources by Region



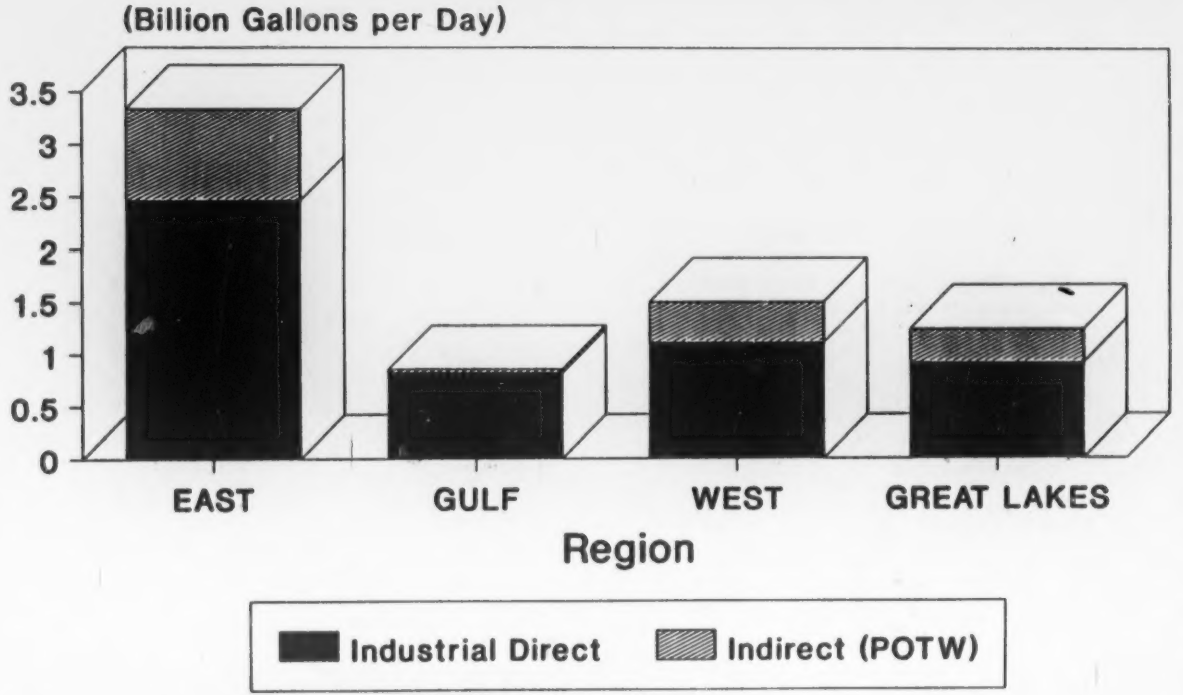
Source: Congressional Budget Office, based on NOAA and EPA data.

Figure 3. Total Wastewater Flows from Industrial Sources and POTWs by Region



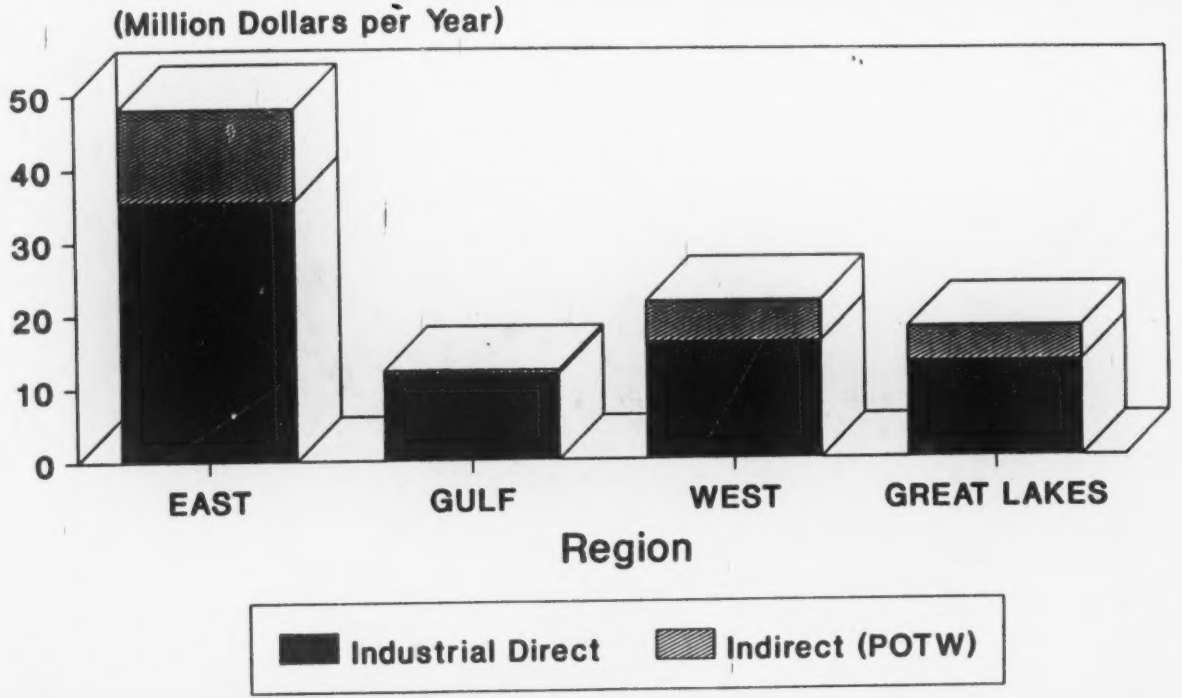
Source: Congressional Budget Office, based on NOAA and EPA data.

Figure 4. Industrial Direct and Indirect Process Wastewater Flows by Region



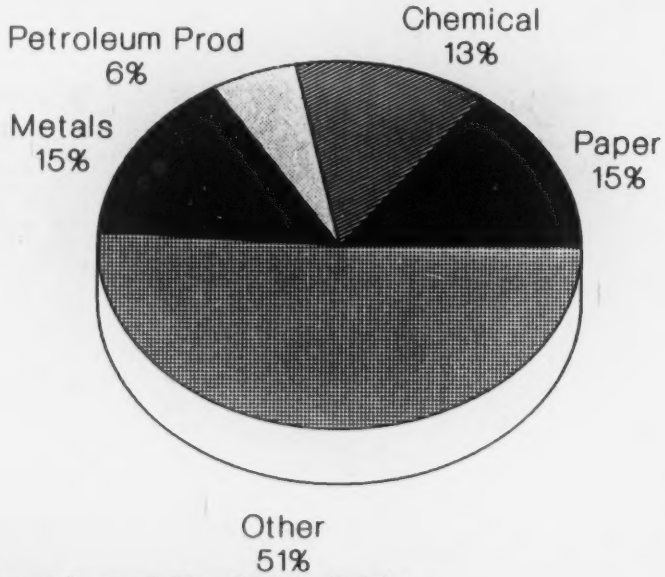
Source: Congressional Budget Office, based on NOAA and EPA data.

Figure 5. Estimated Gross Revenues from a 1.4 Cent per gallon/day Charge



Source: Congressional Budget Office, based on NOAA and EPA data.

Figure 6. Distribution of Estimated Gross Revenues from a Process Wastewater Charge by Industrial Category



Source: Congressional Budget Office, based on NOAA and EPA data. Includes direct and indirect discharges.

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The Effluent Charge System in the Federal Republic of Germany

EXCERPT

THE EFFLUENT CHARGE SYSTEM IN THE FEDERAL REPUBLIC OF GERMANY

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1 . Executive Summary

In response to growing public demand for environmental quality in the early 1970s, the Federal Republic of Germany (FRG) in 1976 enacted an effluent charge law for controlling water pollution. This law, operating in combination with the existing standards/regulatory system, is based on the polluter-pays principle adopted by the OECD (Council of the Organization for Economic Cooperation and Development) in 1972. Firms, cities and others must pay for the cost of pollution control when they discharge wastes into public waters. The charge is levied on 5 significant pollutants and generally is proportional to the amount of the waste discharge. Although the actual charge is lower than abatement costs in many instances, it has proven to be high enough to provide an incentive to reduce substantially waste discharges into public waters. As a consequence, compliance as well as water quality has improved and the costs of enforcement have decreased.

The revenues from the federal effluent charge system accrue to the states (Laender) and are available to pay the costs of water pollution administration, research, construction of pollution control facilities, and for related purposes.

This charge system has brought about increased efficiency in water quality administration among the states, which has led to more equitable treatment for industrial branches and municipalities across the FRG. The new system has met with considerable enthusiasm in the Federal Republic of Germany, even among firms and administrators initially skeptical about the practicality of the "economic point of view."

The German experience is especially relevant in the United States because: (1) The FRG is a federation with the states reserving substantial powers--even more than in the United States; (2) The FRG had an existing standards/regulatory system as the United States now does and enacted the effluent charge law to work in tandem with that system; and (3) an effluent charge system is consistent with the Reagan administration's "user pay" philosophy, i.e., those who use the rivers and lakes of the nation for waste disposal should pay for the costs imposed on the public by such use.

2. Introduction

The 1976 enactment in the Federal Republic of Germany of an Effluent Charge Law (ECL) has rekindled interest in this concept in the United States. Long touted by economists, the effluent charge notion has never received much political support in this country. The German law and experience is particularly interesting to the United States because both nations are highly industrialized, both have continuing water pollution control problems, and both are federal nations with substantial powers of government held by the states.

This study is designed to describe the FRG effluent charge law and the political and legal background that permitted such a law to be enacted there. We also evaluate the impact of that law, although our assessment is necessarily tentative in view of the short experience with the law there to date.

The study then analyzes the economic and legal implications of enacting an effluent charge law in the United States. We consider the advantages and disadvantages of state vs. federal enactment, the constitutional objections that might be raised to such a law, and how it might be related to and coordinated with existing pollution control laws in the United States.

3. The History of Water Management In The FRG

While the United States has been united as a nation-state since 1779, Germany was not united until 1871. Even after the 1871 unification many important areas of domestic policy, including water quality management, remained in the local governments where they had been traditionally. During the 1800s and early 1900s the few water quality laws that were enacted in Germany appeared at the city and town level. Water laws passed by the Laender such as the Badische Water Law of 1899, the Bavarian Water Law of 1907, and the Prussian Water Law of 1913, primarily regulated ownership of water, the right to use water, the maintenance and development of water resources, and flood control; they were not concerned with pollution control.[1]

Neither the Imperial nor the Weimar governments had authority to enact uniform water management laws at the national level. This field was exclusively within the jurisdiction of the Laender, whose water laws had continuing validity even after 1945.

Shortly after the turn of the century the growth of population and industry with its accompanying pollution caused catastrophic outbreaks of disease in the Ruhr and Emscher river basins. As a result, several special-purpose water management entities were created in the early years of that century for these two river basins: the Emschergenossenschaft, the Ruhrverband, and the Ruhrtalsperrenverein. These were designed to control pollution, build reservoirs and generally to control water supply and quality.

In the ensuing years many other similar, special-purpose water associations were created in other Laender. Their diversity, limited competence, and overlapping jurisdictions, however, caused problems and suggested the need for a more coordinated national approach to water management. In 1937 the National Socialist government, as part of a general policy of centralizing power at the national level, enacted the "Realm Law on Water and Land Association," which applied to all of Germany. The law established a uniform approach to the creation of water associations, and empowered the federal Minister of Nutrition and

Agriculture to standardize the method of formation, structure, and powers of all water associations in Germany. Exempted were eight of the larger and more powerful water associations in the Ruhr region, which had a long history of successful water management and were politically powerful enough to be excepted from the general statute.

After the Second World War, the new 1949 Basic Law reversed the trend toward centralization that had prevailed prior to the war. The Laender were able to reestablish themselves as the primary managers of the water resources within their borders. The movement toward decentralization was reinforced by the allied policy of dividing and decentralizing political and legal power so that Germany would not again pose a major military threat. At present there are over 12,000 water associations in the FRG. With the exception of the eight noted above in the Ruhr district, which deal with water quality and in some cases quantity, most of these associations are small and are concerned with rural and domestic water supply, drainage, irrigation, waterway improvement, and maintenance.

The continued existence and viability of these numerous local water management agencies reflects the continuing strong tradition of local control of water management in the FRG. As we see below, this tradition played a critical role in shaping the debate on the 1976 Federal Water Act and Effluent Charge Law.

4. Political Background of the 1976 Federal Water Act and Effluent Charge Law

By the start of the last decade, environmental quality was badly in need of improvement. Years of rapid industrialization had placed an excess demands on the self-purifying capabilities of receiving waters. In many regions traditional uses of water bodies, for example, as a source of drinking water, had been precluded by the deterioration of water quality. It was apparent to all that existing water quality legislation was inadequate for the task. New water law in particular and new environmental law in general was required.[2] The pressure to improve water quality was both internal and external. Switzerland and the Netherlands, downstream from the FRG, were increasingly concerned about the deterioration of water quality in mutually shared water bodies such as lake Constance and the Rhine.

The heightened concern for environmental quality led to the creation of a Cabinet committee for Environmental Problems to coordinate environmental actions of all federal ministries. In addition to its coordination functions this Committee produced recommendataions that were published in a major policy document entitled, "A Program for the Protection of the Human Environment" (PPHE) published in 1971.[3]

The PPHE came out strongly for a market-oriented approach to environmental control. While it recognized that some standards

and regulations might continue to be necessary, especially for more dangerous substances, it argued that the adoption of an effluent charge concept would decrease the misdirection of resources and the diminution of economic efficiency which result from imposing the cost of waste discharge on the community at large rather than on the producers of the goods or services which cause the discharge. The document also recommended that a constitutional amendment be adopted giving the federal government preemptive power over the Laender to enact appropriate environmental legislation to implement these recommendations. Constitutional amendments to accomplish this purpose were proposed in 1973, 1974, and 1975, but failed to pass. The failure of these amendments did not, however, mean a rejection of the recommendations of the PPHE concerning a market approach to environmental control. It simply meant that the Federal government would have to share legal authority over this subject with the Laender, as required by the 1949 Basic Law.

An earlier and fundamentally important precondition for the support of market economic principles for environmental control was the FRG's remarkable recovery under a market economy during the postwar era. In June, 1948, Ludwig Erhard, then director of Economic Administration in the Adenauer government, had pushed through an economic reform abolishing the pervasive rationing, permits, and price controls that had been in place since the war under the caretaker government (with Allied High Commission approval) and switched virtually overnight from a state-controlled economy to one that depended on the free market for its signals. This policy choice, hotly contested at the time as too risky, released within a few short months the exceptional creative energy of the German people and produced some 30 years of unprecedented economic growth. The success of this policy was so great that it understandably encouraged consideration of market principles for solution of water pollution and other environmental problems.

The recommendations of international organizations also encouraged the FRG to consider application of market principles to control environmental degradation. During the early 1970s the Organization for Economic Cooperation and Development (OECD) and the European Community (EC) were both urging member nations to adopt the polluter-pays principle for environmental control. In 1972 the United Nations-sponsored World Environmental Conference was held in Stockholm, Sweden, and the FRG's Minister of Interior Hans-Dietrich Genscher took a strong stand there in favor of the polluter-pays principle, a position that was supported by two important studies by FRG authors, "The Polluter-Pays Principle and Its Instruments," by Bullinger, Rincke, Oberhauser and Schmidt, and "The politics of the Polluter-Pays Principle," by Rehbinder.[4]

The political support for a market approach for pollution control was so strong during the early 1970s that initial proposals looked very much like the "ideal" systems urged by economists. Charges would be levied on waste dischargers in

direct proportion to the damage caused by their use of public waters.[5] However some of the Laender, especially Bavaria and Baden-Wuerttemberg in the south, opposed such a radical departure from the traditional pollution control system of standards and regulations and insisted on modifications. They initially argued that their water quality control systems, including administrative and compliance procedures, were adequate for the task, and that a charge system was unnecessary. When it became clear that a charge system of some kind was going to be enacted by the Bundestag and Bundesrat, they recommended a more moderate effluent charge system, to operate in tandem with the existing standards/regulatory system.[6] By 1976 the idea of a combined system had become dominant. Such a system would levy charges high enough to give signals to the market, buf at the same time would continue an administrative management regime for pollution control.

The idea of a national effluent charge system was strengthened by the existence of the much publicized effluent charge systems in the Ruhr region, e.g., the Ruhrverband and the Emschergenossenschaft. Moreover, the Ruhr systems had provided some technical ideas, for example the "toxicity to fish" criteria as a measure of damage.[7] The basic goal of the Ruhr systems, however, was quite different than that of the proposed national effluent charge system. The goal of the Ruhr systems was to collect money to meet a predetermined budget for the construction and operation of pollution control facilities, whereas the goal of the proposed national system would be to create an incentive for industries and others to reduce their waste discharges into public waters. The collection of a pool of revenues would be only an incidental byproduct of this system. Indeed, one measure of success of the new national system of incentives would be low revenues.[8]

Industry initially opposed the idea of any effluent charge system whatsoever. However as political support for the system gained momentum, this opposition shifted onto implementation issues, such as the criteria for setting charges, the level of charges, and the dates when the system would go into effect.[9]

Some industrialists actually supported the effluent charge concept. The two main sources of industrial enthusiasm for effluent charges were the newer plants that had new waste-saving production processes and the latest pollution control technology and those older plants which had recently installed new pollution control equipment. These companies believed their own charges would be relatively smaller, thus giving them a competitive edge over industrial facilities with less up-to-date equipment. Conversely, a few other industrialists supported the idea because they believed that the levying of charges would even-out the serious inequities caused by variations in the water quality regulatory systems among the Laender.[10]

Four developments illustrate that the new Federal Water Act and Effluent Charge Law reflect compromise, middle ground

resolutions of divergent views. First, instead of a charge replacing a standard, as recommended by some experts in the early 1970s, a charge and a standard was the only serious option.[11]

Second, later proposals were simplified compared to earlier versions. To make the system more workable, simplicity was a major consideration.[12] In the early 1970s biochemical oxygen demand (BOD) was thought to be one criterion on which the charges would be based. BOD, however, is difficult to measure accurately. Some argued too that the BOD criterion was likely to be outdated by the time the law went into effect because by then most water would be subjected to secondary treatment. The consensus about the best criteria to use gradually moved to "BOD plus COD (chemical oxygen demand) divided by two," and ultimately evolved simply to COD. Toxicity to fish became a criterion partly because of its long usage by the Ruhr water agencies. The adoption of the cadmium and mercury criteria was influenced by international concern, especially from the Netherlands, because waters polluted with these metals then flowed from the FRG into or through other countries.[13]

Third, in 1981 the charge was established at an initial level of 12 DM although a panel of experts recommended a charge of 80-100 DM in 1974, a 1972 federal government draft proposed a 40 DM charge, and industry and municipalities asked for no charge or one under 20 DM in the early 1970s. Pressure from the industrial sector, and from some of the Laender which felt they needed more time to develop implementation programs, led to a slow progression of the rate from 12 DM per damage unit to 40 DM by 1986.

Between the March and April final versions of the draft laws, the charge schedule was halved again, provided the federal standards were met. This result reportedly emerged as a compromise between the Federal Ministry of Interior, which wanted a 100 percent charge, and representatives from municipalities and industries, which wanted no charge if the minimum was achieved.[14] The evolution of the charge, not surprisingly, was toward a compromise solution.

Fourth, the federal government failed to obtain the full competence to manage water quality, and explicit goals in the federal government's draft law in 1972 were excised in the 1976 Federal Water Act. The Laender retain their power to determine the uses and consequent quality of a river (with due regard for the need to maintain friendship with bordering countries by exporting acceptable quality water in international rivers). Noteworthy also, in the federal draft of March 21, is the amputation of paragraphs by the Bundestag, which, in effect, decreased potential federal power and retained more power in the Laender. As a further sign of Laender importance, the Laender were allowed to determine how the effluent charge revenues are to be spent. Earlier drafts gave the dischargers an explicit voice in revenue allocation. Now they may be included in revenue allocation decisions at the discretion of the Laender.

5. The 1976 Federal Water Act

The 1976 Federal Water Act (FWA) sets forth the conditions governing the granting of permits to use public waters for the discharge of effluents. The federal government is empowered to establish uniform discharge standards for certain major pollutants and can determine the level of technology that must be achieved by municipalities and industries.

The federal government has authority under the Act to establish a minimum national water quality goal for receiving waters, and did so by setting this goal at quality level II (Guetezustand II).[15] Quality level II is moderately polluted water with a good oxygen supply which is capable of supporting a large variety of algae, crayfish and insect larvae, and capable of supporting a fishery.[16]

The Act continues the operation of the permit systems that were in effect in the Laender under the 1957 law.[17] Effluent discharge permits can be refused, limited or conditioned. Existing permits may also be modified to make room for new or additional discharges by others.[18]

The FWA made an important change in existing law by banning future issuance of any "licenses" by the Laender.[19] Licenses, which were used extensively by some Laender, created vested rights for 20 years or longer and required compensation when revoked. Now all waste dischargers must operate under permits, which are for shorter periods of time and are subject to change and even revocation as water quality demands change over time.[20] Under the FWA even present license holders are subjected to reasonable regulations to conform with the licensed discharges with the federal minimum standards under Art. 7a(2). More important, license holders are also subject to the same charges under the Effluent Charge Law as permit holders.[21]

While the federal government establishes the overall national water quality level (i.e., Level II) the Laender establish definite water quality targets, and programs for achieving those targets. The Laender draw up three types of plans for the management of water, including estuaries. "General water plans" provide the framework for water management, describing present conditions and projecting future possibilities for the region. "Use plans" are essentially ambient water quality standards; they describe the anticipated uses of the water and the quality that must be achieved to permit those uses.[22] "Waste disposal plans" establish a waste discharge program designed to permit achievement of the ambient water quality standards and form the basis of the issuance of permits by the Laender.[23]

None of the plans, classifications of waters, or permits is permanent or creates vested rights. All are subject to change as conditions change over time.[24]

The most important provision in the FWA is Art. 7(a) which authorizes the federal government to establish technology-based standards (allgemein anerkannte Regeln der Technik) such as best practicable, or commonly accepted technology. These standards form one of the basic measurements used in the Effluent Charge Law (ECL), discussed later. The standards vary depending on whether the waste water originates with a municipality or industry, and if the latter, the standards vary by industry. The federal government has appointed some 50 task forces to establish these technological standards for different industries and for cities.

The FWA provides for the appointment of water protection agents to assist in enforcement of the minimum standards. Large water users must designate such water agents within their own organizations to monitor waste discharges. The Laender are also empowered to require the appointment of such agents in other circumstances when this is expedient.

In addition to the basic regulatory system provided for in the FWA, the law provides that dischargers causing harm or injury to others are liable for damages.[25] Those who violate the provisions of the Act are also liable for fines of as much as 100,000 DM.[26]

c. The Effluent Charge Law

After years of extensive public discussion the Effluent Charge Law (ECL) was overwhelmingly passed in the Bundestag and Bundesrat in September 1976.[27] It calls for the Laender to levy charges (Article 1) on direct dischargers of specified effluents into public waters--fresh, brackish and saltwater. Attention in this study is limited to freshwater because it is the focal point of the law in practice.[28] Firms and households discharging into municipal sewerage facilities are not charged directly.[29] The effluent charge policy is designed to reflect the polluter-pays principle, which broadly states that the parties discharging waste should pay for the abatement costs actually or implicitly imposed on society.

The charge system is also designed to be compatible with the principle of precaution or prevention, which states that the quality of natural systems such as rivers ought not to be permitted to deteriorate and should improve through time.[30]

The third principle reflected in the ECL is one of cooperation. Environmental policy can be successful with close cooperation among the federal government, Laender, communities and citizens.[31]

The discharge permit issued by the Laender to all direct dischargers is divided into two parts. The first, a legal part, establishes the discharge right,[32] and contains all the physical, chemical and biological data and monitoring procedures pertaining

to waste water quality (pH, temperature, biochemical oxygen demand (BOD_5), other concentrations, etc.) and the maximum amount of waste water in specified periods (hour, day, year). The specified waste water quality levels must be equal or higher in quality than the miminum requirements of the federal administrative regulation. This part of the discharge permit is subject to the water laws of the FRG and the Laender.

The second part of the discharge permit contains all the data that are necessary to calculate the waste water discharge bill.[33] The pollutants considered for purposes of the effluent charge are settleable solids, chemical oxygen demand (COD), cadmium (Cd), mercury (Hg) and toxicity for fish. Also specified is the annual volume of water. The standard may be specified in terms of concentration per m^3 of discharge volume or per ton of product produced.

The permit specified a maximum concentration of each pollutant and volume of waste water a discharger expects to produce (Hoechstwert). The average (standard) amount and concentrations expected to be discharged are also specified (Regelwert) and are provided by the waste dischargers. Under normal circumstances, the figure or reference value (Bezugswert) on which the charge is based is the volume and concentration the entity expects to discharge. Notice that the charge normally is based on the expected rather than the actual level of discharge. This permits economy in administration.

Table 1 illustrates these ideas. The figurative firm discharges only settleable solids and COD whose reference (expected average) and maximum values have been specified. Under normal circumstances, the waste discharge bill is easily calculated. The data in Table 1 are converted to damage units using the coefficients provided in an appendix to the ECL and exhibited in Table 2 below.[34]

The total damage units of pollution, based on the data in Table 1 and the conversion factors in Table 2, are summarized as follows:[35]

	Damage Units (DU)
Settleable Solids	1,600
COD	165,600
	167,200

The charge per damage unit was 12 DM in 1981 and rises to 40 DM per damage unit in 1986.[36] Thus the initial bill for this representative firm in 1981 is 2,006,400 DM (about 803,000 dollars).

DM is about $.40 in round numbers, as of March 1983.

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TABLE 1
SELECTED POLLUTION PARAMETER VALUES
FOR A HYPOTHETICAL FIRM

	WATER LAW Component Values	WATER CHARGE Component Values
Total Discnarge (m^3/Yr)	12,000,000	10,755,000
Specific Amount of Waste Water Per Ton of Product (m^3/Ton)	190	160
Settleable Substances (ml/l)	.18	.15(Ref.Val.) .30(Max.Val.)
COD (KgO_2/Ton of Product, and	140	112(Ref.Val.)
CPD (KgO_2/l)	740	700(Max.Val.)

The ECL contains an economic incentive for polluters to meet the federal minimum standards. Under Article 9(5) of the ECL, dischargers in compliance with the federal minimum standards will have the charge liability halved by the unit charge. In the event that the Laender have imposed stricter standards than those set by the federal government, the standard of the Laender must be met in order to qualify for the 50 percent discount. The incentive to comply created by introducing a discontinuity or jump in the payment schedule has some special characteristics which will be discussed in a later section of this paper.

TABLE 2
CRITERIA TO BE USED FOR ASSESSMENT OF DAMAGE OF DISCHARGES, NATIONAL EFFLUENT CHARGE SYSTEM OF THE FEDERAL REPUBLIC OF GERMANY

Criteria	Unit of Measurement, Quantity/Yr.	Damage Units Per Unit of Measurement
Settleable Substances for Which Organic Content ≥10%[a]	1 m^3 settled	1.0
Settleable Substance for Which Organic Content ≤10%	1 m^3 settled	0.1[a]
Oxidizable Substance, as Measured by COD[b]	100Kg	2.2
Mercury & Compounds[c]	100g Hg	5.0
Cadmium & Compounds[c]	100g Cd	1.0
Toxicity Toward Fish	$1000m^3$ wastewater $0.3G_F$[d]	

a. Measurement procedure: reduce amount by 0.1 ml/l wastewater beforehand.
b. Measurement procedure: reduce amount by 16 mg/l wastewater beforehand. Silver sulfate is the catalyst in the dichromate method specified.
c. Measurement procedure for Hg and Cd: atomic absorption spectrometer.
d. GF is the dilution factor, e.g., down or up to nontoxicity. If wastewater is discharged in coastal waters, toxicity is not considered for those substances whose content is based on salts which are comparable to those in ocean water.

It generally may be presumed that the normal (expected) value will not exceed the federal minimum standard.[37] In the example above, the bill would be halved to 1,003,200 DM (about 402,000 dollars) if the firm met the federal minimum.

If actual waste discharge is above the federal minimum, using the average (monitor value) of the last five observations, the polluter faces legal consequences under the FWA and loses the 50 percent reduction in the charge obligation.[38]

The ECL and FWA are primarily keyed to expected performance. However, seasonal and other variations in discharge are an important consideration. Damage generally is a function of actual, not average discharge. In recognition of this, maximum concentration values and volume are defined and the maximum cannot be more than twice the expected values stipulated by the discharger. It follows that the physical basis for the charge is at least one-half the maximum value.

If the maximum value is exceeded more than once, then the value on which the charge typically is computed (Regelwert) is increased. The revised basis for the charge increases with the amount the maximum actually is exceeded in a mannmer specified in the ECL.[39]

The basis for computing the charge is reduced if the discharger anticipates that his actual volume and concentration will be below his previously stipulated expected value (or standard value) by at least 25 percent for at least one-fourth of a year.[40] In this case, the charge is based either on the actual performance or on the downward revised expected value.

The effluent charge system is a delicate and complicated resolution of federalism and practicality. The discriminating reader will have detected unexplained possibilities in the above description. For example, what is the charge if the discharger's actual pollution meets the federal minimum but is above the expected level? We cannot give a general answer for the following reason. If the discharger, in fact, meets the federal minimum, then the federal conditions are met. That the polluter is actually discharging more than is expected but is only paying on the basis of the lower, expected value, is a potential issue for the Laender to resolve as each sees fit. Perhaps the answer is provided in Articles 14 and 15 of the FWA which prohibit acts of evasion. Only a state-by-state survey would provide the answer to these and other subtle matters which fall within the Laender jurisdictions.

6.1 The Hardship Clause

The ECL contains a hardship clause[41] that allows the federal government, with consent of the Bundesrat, to pass laws exempting industries, sections of industries, or regions from the charge in instances where imposition of the effluent charge would result in significant detrimental economic conditions. An exemption may be

for the whole charge or a part of it, but it is in any event not to remain in force later than December 31, 1989.

The Minister of the Interior to date has been petitioned by eleven industries for exemptions. The requests have come from pectin, cellophane, particle board, yeast and non-ferrous metals industries. Seven petitions have been denied and the rest are still being considered. Several counties (Kreise) in East Bavaria and a number of cities have also requested exemptions. They have been rejected either because of inapplicability of the law to the counties or because of lack of sufficient proof that imposition of the charge would occasion significant detrimental economic consequences to the cities or counties.[42] Although the hardship clause has yet to be used, it was thought by many interviewed to have been an important element in the political process leading to the enactment of the legislation. Criteria for assessing hardship are not spelled out in the Act.

6.2 Magnitude of the Charge and the Minimum Standard

a) Industries

Because no revenues have been collected and too little time has elapsed to make a representative study of actual impacts, it is not possible to report the actual economic effect of the new water quality laws on municipalities and industries. However, one study does provide some estimates of the magnitude of the charge in value terms. Rincke appraised the impact of an effluent charge on 26 of the major water polluting industries in the country. He found that the cost of the charge and avoidance measures were less than two percent of sales for the most serious polluters except in the pulp, yeast and leather industrial branches.[43] Sales for the last two industries rank in the lowest twenty percent of the group surveyed. Only in the pulp sector does the charge component loom large. Several of those interviewed stated that the pulp industry has many marginally economic plants, barely surviving with outdated technology. Should the new water quality laws put some of the pulp plants out of business, it would be seen as a modest advancement of the anticipated date of demise. Short of a full-scale study of each sector's domestic and international competitive position, one cannot say that a one or two percent increase in the cost of products is altogether innocuous. However, it is clear that such an increase is small compared to variations in advertising budgets and annual changes in interest and wage rates, and probably is small compared to annual changes in raw material costs.

b) Municipalities

The charge for waste treatment to municipalities depends on the size of the municipality, desired level of waste treatment and the age of equipment. It is high when new facilities are built and tapers off as the financing obligations are met, since the charge varies with financial costs rather than real costs.

One study found that sewerage charge rates varied from .60 DM/m^3 to 3 DM/m^3, but that the charge in large municipalities did not exceed 1 DM/m^3.[44]

The effluent charge component of the new laws is expected to increase the unit cost by .03 DM/m^3 in 1981 and by .11 DM/m^3 in 1986. The effluent charge component in 1986 will amount to about 3.26 DM or $1.30 per year per inhabitant.[45] The cost of adding facilities to meet the minimum standards, expressed on a volume basis was estimated to be about .33 DM/m^3 for the municipalities surveyed or perhaps 10 DM ($4.00) per year if per capita annual consumption is 30m^3. Putting the cost of the charge (about $1.30) and the necessary new facilities (about $4.00) together, yields an estimated cost of under about $6 per year per inhabitant to meet the requirements of the new water quality laws.

25. Synopsis

The Federal Republic of Germany's 1976 Effluent Charge Law was produced at the crest of that nation's environmental movement and against a background of broad support for the application of market economics to resolve the country's water pollution problems. The ECL was designed to operate in tandem with the existing standards/permit system established in a 1957 law and modified in 1976 Amendments.

The Effluent Charge law was enacted by the Budestag and Bundesrat as a framework law because the FRG Constitution requires that all implementation and enforcement of water management laws must occur at the Laender rather than the federal level. All the Laender have subsequently adopted implementation laws and enforcement programs. The federal act established a minimum national water quality goal, and authorized federally created task forces to set technology-based standards for all industries and municipalities. The recommedations of these task forces had to be confirmed by the Ministry of Interior and the Bundesrat which approximately resembles the U.S. Senate.[120] The federal act also determined the pollutants on which the charges are to be based, and set the annual charges for each pollutant. The Laender carry out all enforcement of the Act, including timing of implementation, collection and disbursement of charge revenues.

The technology-based standards established uniform thresholds for individual discharge level across the country. The Laender can set higher minimums if they are necessary for achieving particular quality goals in given water bodies.

The effluent charge system enacted in 1976 is tied to five pollutants: settleable solids, COD (chemical oxygen demand), mercury, cadmium, and toxicity to fish (Sec. 6). The charge level starts at 12 DM (about $5.00) per damage unit in 1981 and rises to 40 DM (about $16.00) per damage unit in 1986. A damage unit is a specified amount of effluent such as 45.45 Kg of COD. The charge per damage unit is uniform across regions and polluters.

Each discharger pays for the expected amount of pollution stipulated in the effluent charge portion of the individual permit. The charge liability is lower under two circumstances. If the expected discharge level meets the federal minimum standards, the unit charge is reduced by one-half (e.g., from 12 DM to 6 DM in the first year). Second, if the actual discharge level is substantially below the expected level, the bill is based on the actual level of discharge.

When maximum levels of discharge, stipulated in the permits, are exceeded, polluters are penalized by having to pay more in the future.

Revenues from the charges can be used by the Laender for the costs of administering the ECL and for supporting pollution abatement activities such as research for innovations in technology; tertiary treatment plants and other investments which inmprove water quality beyond the mminimum desired levels; lake rejuvenation; and large-scale, economical treatment plants which benefit region.

Lessons learned from the short experience of the FRG are that an effluent charge system is most likely to be politically viable and administratively attractive if:

1) It covers a small number of pollutants--under six;

2) It is combined with permit systems;

3) The charges begin at some specified level and escalate during a transition period;

4) The charge levels result from a process involving the participation of interested parties including those benefitted and harmed by waste dischargers;

5) Measures and levels of volumes and pollution concentrations are simplified;

6) Effluent charge revenues are made available for abatement-related expenditures[121]--see below;

7) Hardship clauses are provided to protect dischargers or industrial sectors under exceptional circumstances (Section 6.1);

8) Controversy over "regionalization" of the charges is faced squarely; and

9) Care is taken to demonstratae how the effluent charge program actually can be implemented (Section 16).

If an effluent charge system meeting the above constraints is implemented, we can expect:

1) Charges to increase the incentive for firms to find treatment technologies, substitute production processes and substitute input and output combinations which diminish residuals discharge. The qualitative evidence is that firms whose standards did not change because their discharge licenses did not change, generally found ways to reduce their charge obligation. An intra-firm effluent charge system resulted in a 20 percent decline in waste discharge in the seven years since its introduction (Section 10).

2) Charges to increase the incentives for municipalities to adopt customer sewage pricing policies which not only are acceptable financial instruments but also offer incentives for the indirect dischargers to economize on waste production (Section 10).

3) Charges encourage, if not require, municipalities to find satisfactory procedures for better monitoring of the intake and outflow of effluent This will help public authorities to reduce the average cost of their sewage services and will aid them in executing an effluent charge policy which better reflects the marginal cost of treating a given customer's effluent (Section 12).

4) If a charge system is generating billions of dollars per year in revenues, it is likely that this source increasingly would look attractive as a substitute to the U. S. Treasury for pollution abatement subsidies. Since revenues have yet to be collected in the FRG, there is no evidence to support the concern of several water quality experts interviewed that this substitution would take place. A decreased dependence on the Treasury redistributes the cost of pollution from the general taxpayer to the consumer of pollution intensive products and to the owners of factories specialized in the production of those products. Such a shift in the source of the polluter-pays principle (Section 11).

5) The present system of subsidies in the U. S. for waste treatment rewards capital intensive municipal waste treatment technologies by subsidizing capital expenditures. By encouraging municipalities to use more operation and maintenance expenses to reduce waste discharge, the effluent charge system helps to correct resource allocation distortions the subsidies created.

6) If revenues generated from charges are made available for expenditures for water quality improvement, some portion of these funds will be available for use by industry. The present subsidy system in the U. S., by excluding firms directly (except for fair credits favoring "end of pipe" charges), distorts the marginal cost of waste treatment between private (firms) and public (municipality) dischargers. There may be equity considerations which justify the present policy, but such goals are achieved at the cost of a lost in efficiency. These losses will be mitigated, in part, if firms qualify for subventions. Final discussions prior to the passage of the ECL defined

the uses of charge revenues to include industrial expenditures for effluent reduction-production processes, in addition to more straightforward pollution abatement expenditures (Sections 10 and 15).

7) If the cost of administering and enforcing the effluent charge system is covered in part or totally by revenues created, as it is in the FRG, then we can expect greater availability of enforcement services and more compliance compared to the precharge period. There is too little empirical evidence regarding enforcement levels in the U. S. to know whether and to what extent the present situation is optimal. There is the danger of excessive enthusiasm for enforcement when the budget for enforcement comes from charge revenues. Representation of heterogeneous interests on a board in charge of revenue disbursement is one way to reduce the chance for this resource misallocation -- admixtures are effective antidotes for excessive zeal (Sec. 13).

8) Introducing an actual effluent charge system on top of a standards system, in all likelihood increases the total cost of educating legislators and others unfamiliar with such a policy so they can vote intelligently. In return, water quality is improved and the flexibility, quality and precision of the management program is improved when more policy options are available (Sections 14 and 15). Moreover, the costs of familiarizing policy makes about economic instruments may be thought of as an investment. Returns will be realized when discussions of policy issues in the future embraces economic solutions.

9) An effluent charge system combined with a permit system creates a more flexible assortment of policy tools capable of better responding to changing circumstances than either system alone (Sec. 12).

10) If managers of other natural resources such as ground water, marine waters, air and land--which --are substitute waste sinks for fresh water bodies, are engaged at least in an advisory capacity in the design of the charge system, spillover losses into these substitute areas can be reduced (Section 16).

11) In recent years, the introduction of the bubble concept has improved the efficiency of water quality management in the United States. Residuals producers are permitted to trade environmental quality permits. The bubble concept introduces greater flexibility into the system by

enabling exchange, in effect, to remove constraints on some firms' behavior. Is a charge system unnecessary if a bubble policy is in place? Other things being equal, the introduction of charges results in a loss of revenues to polluters. Alternatively put, the implicit value of discharge permits is depreciated by the introduction of an effluent charge. In contrast, since introducing the bubble removes some constraints, the value of tradeable permits increases. Thus, the distributive consequences of these two policies is quite different. In practice, the efficiency aspects seem to be different. To date, the number of air pollution offsets consummated is modest and the number of water quality trades is miniscule. This suggests that there are practical impediments to the development of offset markets in water. These may or may not be of a short-run nature. On the other hand, the effluent charge impinges on all municipalities, direct dischargers, and on some indirect dischargers. Thus the effluent charge system generally is superior to a bubble system.

The extent of the resource savings created by an effluent charge depends largely on its magnitude. What is clear from this discussion is that in a pollution offset program, effluent charges are complementary, not competitive programs, when the criterion is economic efficiency.

Finally, if the experience in the Federal Republic of Germany is a guide, the introduction of an effluent charge will improve water quality (Section 10).

In the United States it is clear that Congress has the constitutional power to enact an effluent charge law for the nation as a whole. Alternatively Congress could enact a "framework" law estalishing minimum standards for state effluent charge laws, and then allow the states to enact such laws as they saw fit. Objections might be raised to federal or state effluent charge laws on the basis of constitutional equal protection and due process grounds, but these objections would fail.

States have authority to enact effluent charge laws under their own constitutions, and under the federal constitution. However state water pollution control laws might be preempted by the extensive federal regulation in the field. The Clean Water Act (CWA) explicitly provides that state laws are not preempted by the federal Act if they are "stricter" than the federal law, and state effluent charge laws might conceivably meet this criterion. However sufficient uncertainty surrounds this question that we recommend enactment of federal legislation explicitly authorizing state effluent charge laws.

An effluent charge law could be enacted in the U. S. to operate in tandem with the existing CWA standard/permit system. In spite of the much publicized no-discharge "goal" of the Clean Water Act, the system actually is technology based. It would be quite feasible to coordinate an effluent charge law with the existing NPDES system. The data generated by the NPDES process provides the technical information that would be required for establishing effluent charges. An effluent charge system should not excuse waste dischargers merely because they are meeting the technology-based standards.

Caution should be exercised about considering variations in charge levels if they are initiated by a state or a region. Not only is it exceedingly difficult to determine the technically proper and politically acceptable variance, but such variances might also encourage industries to bargain among states for the lowest charges.

Statement Of
Stephen Morgan, President
University of La Verne
and
John G. Mainiero, Vice President
Administration and Finance
University of La Verne

The University of La Verne is a private, post secondary educational institution located in the City of La Verne, California. As an institution concerned with the environmental issues facing the nation today, and in response to requirements of the California Clean Air Act, this institution has established a program to encourage alternative transportation methods. There is a firm commitment to encourage employee participation in carpooling, vanpooling, public transportation, and other alternative transportation methods. These services are available to all University of La Verne employees and do not discriminate in favor of officers or highly compensated employees.

This statement is presented to respectfully request the Subcommittee on Select Revenue Measures of the Committee on Ways and Means, to consider equitable tax treatment for vanpool benefits and transit passes. The University specifically requests that this Subcommittee recommend legislation to affect the following tax code modifications:

> Employer subsidized vanpool programs be considered "working condition" fringe benefits just as free and subsidized parking is now treated under current tax laws.
>
> Transit passes be considered "de minimis" fringe benefits as free and subsidized parking is now treated under the current tax laws, and the $15 limit on tax-free value of transit passes be increased to $30.

Under present law, gross income does not include a working condition fringe benefit. It is noted that under Code Section 132(h)(4) of the Internal Revenue Code, the value of parking provided to an employee on or near the business premises of the employer is generally excludable from the employees gross income as such a "working condition" fringe benefit, regardless of whether the employer owns or rents the parking space; and, further, certain direct employer reimbursement for parking expenses may be excluded.

The parking costs to metropolitan employers would exceed or be equal to costs incurred by an employer to provide fully subsidized vanpool services to employees. Further, a vanpool program would transport larger numbers of employees in one vehicle, use significantly less fuel to transport said employees, improve air quality, and reduce traffic congestion. Clearly the vanpool has merit as environmentally sound, but at the same time it can be argued that it should be excludable from the employees gross income just as employer subsidized parking is since it is a means by which the employee is able to be at the worksite.

If it is the intent of this legislative body to support the goals of the nation in its efforts to address the environmental issues today, then it is imperative that its Federal tax system support measures that would encourage public participation in programs to reduce emissions, decrease traffic congestion, and improve the environment. If tax regulations consider employer provided parking privileges for single driver vehicles excludable from employees gross income, then employer subsidized vanpooling should also be excludable from an employees gross income.

The Tax Reform Act of 1986 clarified treatment of employer-subsidized transit passes so that reimbursement to cover the cost of commuting by public transit could qualify as a de minimis fringe, as long as the reimbursement (and the value of other employer-subsidized transit passes) did not exceed $15.00 per month. If the benefit exceeds $15 per month, then the total value of the benefit is includable in income.

Of all alternative methods of commuting, public transit is perhaps the most environmentally desirable form of transportation. Public vehicles transport large numbers of people with the least amount of fuel and is the most effective means of reducing traffic congestion. The Federal tax system should recognize the merit of supporting use of public transit systems by the tax treatment of employer-subsidized transit passes. A more realistic application of the "de minimis" fringe benefit for this mode of commuting would be $30 and should the employer subsidized cost of this benefit exceed that $30 figure, then the $30 should remain excludable as income.

It has been the experience of this institution that employees who receive less compensation participate in these programs, and they are less likely to be able to afford further tax adjustments for a benefit. If employers are to generate interest there must be incentive, and incentive must have a beneficial result for the employees. If, as an employer, the University is willing to support environmentally sound programs, it is our conviction that the Federal tax system should reinforce that participation by exempting from taxation employer subsidized vanpools and transit pass programs.

Thank you for your consideration of this proposal.

STATEMENT
on
ENVIRONMENTAL TAX ISSUES
for the
U.S. Chamber of Commerce
by
Dr. Harvey Alter[a]
March 19, 1990

The U.S. Chamber of Commerce appreciates this opportunity to express its views on amending the tax code to promote environmental quality. The Chamber supports constructive policies to meet the nation's ever-increasing standards of environmental quality and protection. However, the imposition of "pollution taxes" is not a constructive policy. Such taxes will merely raise revenues at the expense of economic health. Such taxes are more likely to drain resources otherwise earmarked for pollution abatement than to improve the environment.

Tax policy is often used to modify behavior by altering choices according to price. This approach is not applicable to the case of environmental emissions or pollution. For many years, national policy has been to set health-based standards and then issue emission permits to allocate emissions without exceeding the standards. The system of permits is the behavior modifier. Emissions within the health-based standards are allowed. Releases beyond the permits are pollution. As we understand the Committee's proposals, the taxes under consideration would be in addition to the permit system, hence would not likely affect emissions to any great extent.

It has been shown time and again that only affluent societies can afford environmental protection to attain and maintain high, modern standards. The United Nations Environmental Programme has addressed the "growth imperative" and the now-famous Brundtland Report[b] stresses the need for sustainable economic development. The teachings of these two prestigious international groups hold true for developed as well as developing countries. Tax policies that drain resources in the name of environmental protection but do not provide environmental protection are absolutely counterproductive. A few examples follow to support these conclusions.

The U.S. must have a healthy manufacturing sector and a generally strong economy to be able to afford environmental protection. Pollution taxes would drain the economy by raising the Consumer Price Index (CPI), decreasing the Gross National Product (GNP), decreasing employment, and placing the country at a competitive disadvantage in the world economy. All such steps are absolutely counter to the directions the country must take.

This statement addresses three of the proposed pollution taxes under consideration: an increase in taxes on motor fuels, emission taxes, and taxes to promote recycling.

Increasing Federal Excise Taxes on Motor Fuels

It has long been national policy to collect excise taxes on motor fuels as a user fee for improvement of transportation, particularly of highways. The Chamber has long supported this user fee and opposes any other motor fuel tax.

Increasing the excise tax on motor fuels, even by as much as 50 cents a gallon, is not justified on environmental grounds. The obvious intent of an increase is to price the fuels high enough to decrease consumption, which assumes a high elasticity of demand. Much of the motor fuel consumed is for essential purposes (*e.g.*, transporting food to market and commuting where no public transportation is available), hence, its use is relatively insensitive to price. Therefore, a tax increase would raise costs without significantly affecting emissions.

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a. Dr. Alter is Manager, Resources Policy Department, U.S. Chamber of Commerce.

b. World Commission on Environment and Development. *Our Common Future.* Oxford University Press. New York. 1987.

A proposal to raise motor fuel taxes ignores the emission controls presently in place on mobile sources and the legislative efforts under way to amend the Clean Air Act to require even more stringent controls. Mobile sources are becoming cleaner and cleaner. It is almost impossible to justify a motor fuel tax as a policy to improve air quality.

Cities have failed to attain the National Ambient Air Quality Standards (NAAQS) of the Clean Air Act for a variety of reasons, not just because of mobile source emissions. All of the cities in nonattainment, except for Los Angeles failed to meet the NAAQS for fewer than 17 hours a year, except in 1988 due to its extreme summer weather. However, one result of the strict definitional requirements of the Clean Air Act is that once a city is classified as being in non-attainment (*i.e.*, having more than two exceedances of any of the NAAQS per year), it remains in that classification until it has met the NAAQS for three years. The statistics of nonattainment are thus skewed to err on the side of more areas appearing to have poor air quality than actually do. Therefore, there is almost no nexus between raising everybody's fuel costs and expecting to improve air quality.

The related factors of effects on the poor, the CPI, and the GNP cannot be ignored. Clearly, an increase in transportation costs (including freight costs for food and other essentials) is regressive. Fuel costs are part of the CPI, hence inflationary. Residents of rural areas would have to bear a greater burden than residents of urban areas, especially those with subsidized mass transit.

The Chamber is aware of the studies and statistics brought to the Committee's attention at the early March 1990 hearings. The quantitative case for not increasing motor fuel excise taxes is persuasive.

Emission Taxes

An emission tax in lieu of environmental controls is contrary to the present system of basing environmental quality on health-based standards. An emission tax with environmental controls is primarily a means of increasing revenues and costs. If the tax affects emissions, it is essentially to postpone investment in the equipment necessary to meet regulations and standards because of a draining of financial resources. Thus, the effect is counter to public policy.

Taxes to Promote Recycling

At least since the early 1970's, there have been proposals to impose a tax on virgin materials as a way of increasing the demand for secondary materials. H.R. 3735, introduced by Representative Luken, would impose a tax of seven dollars per ton on virgin materials. In the 1970's, similar proposals called for a tax of $25 per ton.

A virgin materials tax merely raises the price of virgin materials and domestic products. It does not change manufacturing technologies that rely on a particular feedstock nor alter the ability of a secondary material to meet a user's specification.

Before any tax or other measure to increase recycling is imposed, the status of the use of secondary materials must be understood. The country consumes mammoth quantities of secondary materials. The numbers are so high that statistics are almost meaningless. All too often, the statistics do not include home scraps (materials if not consumed in production would be wastes) or prompt scraps (materials generated in manufacture that are returned to the economic mainstream as raw materials, and therefore, never become wastes). Many secondary materials are never destined for disposal. For example, more than 85 percent of obsolete automobiles in this country are processed to recover ferrous and nonferrous metals. In the 1960's, obsolete and abandoned automobiles were part of the municipal solid waste (MSW) stream. Today, they are not counted either as a waste or as part of MSW that is recycled.

Most proposals for a virgin materials tax are directed to affect the recycling of MSW or the household portion of that waste. Most of the recyclable components in MSW, from household and other sources, are recycled today. Recycling for those that are not may be limited by transportation distances. (For example, not all urban areas are near glass container or glass fiber plants, which limits the demand for secondary glass.) Often, recycling is limited by lack of collection and processing infrastructure, not by markets.

The common perception of the extent of recycling and the possible need (or not) for a tax differential is influenced by the temporary excess of old newsprint (ONP) -- and little else. The supply-demand situation for this commodity is changing as it has in the past. Historically, this market has been subject to wide swings, so the situation today is no sur-

prise. A tax on virgin paper will not affect the historic swings worldwide. The market for ONP is global.

Studies of the effect of a virgin materials tax were conducted in the 1970's and should be retrieved and reviewed. At the time, there was no conclusive evidence that a tax of even $25 per ton would affect consumers' economic decisions regarding the use of primary or secondary materials.

A recent report from the Office of Technology Assessment[c] addresses several forms of tax code changes that have been proposed over the years to improve recycling. The conclusion is that the only mechanism that would have any effect would be a direct subsidy.

Conclusions

The weight of evidence is that pollution taxes are ways of raising revenues and decreasing national economic activity with possible regressive effects on the poor and rural populations. There is no evidence that such taxes would affect environmental quality except to postpone investments to meet emission standards because of a drain on financial resources.

The Chamber recommends that the Committee reject any proposal to raise taxes in an attempt to improve the environment.

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c. Office of Technology Assessment. *Facing America's Trash*. Washington. 1989.

STATEMENT OF PHILIP L. WINTERS

VIRGINIA ASSOCIATION OF PUBLIC TRANSIT OFFICIALS

My name is Philip L. Winters. I am president of RideFinders, the non-profit ridesharing program for the Metro Richmond, Virginia area. I have submitted this statement on behalf of the Virginia Association of Public Transportation Officials (VAPTO). My remarks represent the position of the Virginia Association of Public Transportation Officials and my employer, RideFinders.

I appreciate the opportunity to submit VAPTO's statement requesting this Ways and Means Committee take the first step towards raising the tax-exempt level of transit pass fringe benefits to $60 per month and reinstating the exemption from tax for vanpools.

Federal tax policy on the treatment of employer-provided transit and vanpool benefits is more than a large city issue or even a city issue. How the federal tax system treats parking in relationship to alternatives to driving alone such as mass transit and vanpooling has impacts on economic development, air quality, energy dependency and traffic congestion in all parts of the country.

VAPTO is a non-profit organization consisting of 20 transit properties that carry over 98 percent of the annual public transit ridership in Virginia and also manages a transit liability insurance pool for its members. Associate members include ridesharing agencies, human and social service agencies, and transit consultants and vendors.

VAPTO's membership consists of large urban transit properties (Washington Metropolitan Area Transit Authority, City of Fairfax, City of Alexandria) medium urban transit properties (Greater Richmond Transit Company, Tidewater Transportation District Commission, Penisula Transportation District Commission, Greater Roanoke Transit Company, Greater Lynchburg Transit Company, City of Charlottesville; Petersburg Area Transit); small urban transit properties (Harrisonburg Public Transit Department, City of Danville, City of Winchester); and rural systems of varying sizes and characteristics (Town of Blacksburg; James City County; Central Virginia Transportation; Jefferson Area United Transportation). The mix of size and type of system (urban; suburban; rural; bus; vans; rail; ferry) in Virginia is typical of many states. Virginia may be viewed as a sample of various methods that have been developed to make public transportation available to the commuting public.

VAPTO strongly supports changes to the federal tax policy to provide that employer subsidies for mass transit and vanpooling be treated as employer provided parking as working condition fringe benefits which are not included in gross income. VAPTO supports increasing the level of tax-free transit subsidies from $15 per month to $60 per month. Furthermore, VAPTO supports the elimination of the "cliff" provision which taxes the entire value of the employer-provided transit subsidy if the employer provides more than $15 per month. VAPTO also endorses efforts to allow the monthly cap to increase with the consumer price index or similar indices.

Currently, elements of the Federal tax code encourages automobile use rather than transit. Federal tax policy allows free or subsidized employer provided parking as a tax free, working condition benefit to the employee. The value of this tax free benefit has no ceiling; in the City of Alexandria in northern Virginia this benefit can approach $170 per month for a reserved parking space. In Norfolk and Richmond, the monthly parking cost can be as high as $75 and $110 per month, respectively. In Roanoke, the highest rate is $46 per month. The full value of employer provided parking is regarded as a cost of

doing business and is deductible for tax purposes.

At the same time, the Federal tax code allows a maximum of $15 per month for employer provided tax free transit benefits. Furthermore, the $15 per month tax free benefit has a cliff provision, whereby if the employer provides over $15 per month in transit benefits the entire amount, not just the amount over $15, must be included as adjusted gross income by the employee for Federal income tax purposes.

In this instance, Federal tax policy appears to favor solo auto usage over other commuting modes. By providing economic incentives for providing free or subsidized parking as opposed to transit discounts, auto usage is encouraged.

The diversity of how parking benefits are provided and the fact that employers may not even perceive they are providing parking subsidies makes it difficult to encourage employers to offer transit subsidies as well as parking subsidies. Tax-free parking benefits are being provided by employers in any one or combination of four methods: parking subsidies being paid in the form of cash reimbursement from employer to employee, employer-provided parking passes or direct billing for employee parking to employer, employer pass through to the employee of free or reduced price parking imbedded in lease terms for commercial space or the direct provision of parking by the employer.

The extent of the subsidy will vary but the following example illustrates how signficant the subsidy can be. A parking below grade can cost $20,000 or more per space to construct. This equates to a yearly cost of $2,375 to amortize the capital cost over 25 years. Therefore, nearly $198 per month would need to be collected just to recover the capital cost, and an additional charge would be necessary to cover operating expenses and provide profits.

Instead of operating parking facilities as a stand alone profit center to generate a financial return to a commercial development, a portion of the parking cost is imbedded in the lease terms. The cost of parking then is reflected in the rent levels for the development. Just as there is no such thing as a "free lunch", there is no "free" parking. The fact that less than 10% of commuters pay to park indicate the extent of imbedding that occurs.

When employers lease parking as part of their overall lease, they are less likely to charge the full cost of parking to employees. They may not even know the actual parking costs. The firm rents parking based on its assumptions concerning its employees. Employee preferences with regard to transit or vanpooling are not reflected when they are faced with the decision to accept free parking or nothing.

As a result, employees accept free parking and the employer assumes that free parking was desired by employees and its decision to provide it was correct. In the absence of better information on parking costs and employees' preferences, it is unlikely that the amount of parking provided is the same as would be provided in a free and open market.

By increasing the limit on tax free transit benefits beyond the current level of $15 per month, the cost of transit would decrease to employees relative to driving and would tend to increase ridership. The impact of this approach would depend on the willingness of employers to offer the additional fringe benefit. Because the employer can only provide $15 per month to an employee, employers do not regard a transit subsidy program as significant benefit relative to unlimited parking subsidies.

Furthermore, the transit subsidy is less flexible than a parking subsidy program. The $15 per month cap on transit benefits may bear no relation to an employee's transit cost, and should fares increase, the benefit cap means an

ever increasing portion of costs must be met by the employee. With tax-free parking, the benefit may cover the employees' entire parking costs and keep pace with cost increases.

VAPTO members have had extremely positive experiences working cooperatively with employers. We believe a well-conceived transit subsidy program can address a variety of local or regional problems. By raising the tax-free limit on a transit pass from $15 to $60 per month, the subsidy would be nearly equivalent to the cost of parking especially in the small to medium areas. For instance, in Richmond a $53 per month transit subsidy would provide a free ride on an express bus or cover 50% of the cost of the most expensive monthly parking downtown.

In the Northern Virginia and Tidewater areas, employer-subsidized transit passes when coupled with high occupancy vehicle lanes can provide substantial incentives to commuters to use mass transit and contribute to significantly reduce traffic congestion and air pollution in those areas. Such a program could also foster employer-support for commuter rail service along the I-95 corridor in Northern Virginia.

An employer-transit subsidy program can also be an effective labor market accessibility tool for rural and suburban areas with limited public financial resources to expand transit service. One Richmond area employer relocated 2,000 of its administrative and data processing personnel from the downtown to a suburban site about 5 miles away. Prior to relocating, the company discovered that nearly 20% of their workforce were dependent on either riding the bus or carpooling with someone from a nearby company. In order to avoid substantial losses in productivity due to turnover as a result of the lack of transit service, the company has joined with other large employers in the area to investigate how to begin providing either public or private transit and vanpooling services to that suburban area. Raising the cap on the transit subsidy program could broaden the scope of employer participation and facilitate the relocating employees.

VAPTO believes that reinstating the exemption from tax for vanpools will also enable employers to support employees who live and or work outside the service area of the local transit system in rural and suburban areas. Many of our communities are finding greater numbers of commuters traveling between urban areas. Vanpooling with 8 to 15 people would reduce the number of cars on the road.

VAPTO's reason for providing this testimony and relating what has occurred in Virginia is to suggest that serious thought be given to how federal tax policy has been used to influence commuting decisions and how these decisions have implications on transportation, environmental, and energy policies aimed at reducing traffic by fostering greater use of mass transit in any form.

VAPTO members believe the application of common sense is the best solution for this issue. The challenge for this committee and the Congress is to draft a statute that seeks to make the federal tax policy consistent with transportation, environmental and energy policies. A statute that fosters employer-support for alternatives to driving alone on a similar basis as free parking will allow modal decisions on free market conditions. It would ultimately result in more commuters opting for transit and vanpooling and contribute to reductions in traffic congestion, air pollution and energy consumption. We are asking for the opportunity to compete for the commuter's modal choice decision under "level playing field" conditions.

STATEMENT OF DUANE BERENTSON, SECRETARY

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

My name is Duane Berentson. I am the Secretary of the Washington State Department of Transportation (WSDOT). This statement is submitted on behalf of WSDOT and my remarks represent the position of WSDOT on this issue.

I appreciate the opportunity to submit WSDOT's statement to the U.S. House of Representatives Ways and Means Committee hearing to explore how revisions to the federal tax system could be used to improve the environment by reducing air pollution and promote energy conservation.

WSDOT is faced with very large increases in the number of vehicles and vehicle miles traveled, especially within our state's larger urbanized areas. It is not financially, socially, or environmentally feasible to rely primarily on the construction or expansion of freeways and other highways to meet present and future traffic demands. Several of our larger urbanized areas in this state do not meet the clean air standards. Even though today's vehicles pollute less and get better fuel mileage, the great increase in vehicles and vehicles miles of travel make it extremely difficult to make progress toward clean air attainment and reducing our dependence on foreign energy sources.

In order to continue to provide the necessary transportation mobility for our citizens, improve the air quality within our larger urban areas and conserve transportation energy, WSDOT recognizes the importance of moving numbers of people rather than numbers of vehicles. For example, in the fast-growing Puget Sound area, we are in the midst of a large comprehensive transportation demand- management program consisting of high occupancy vehicle lanes (HOV), park and ride lots; freeway surveillance control and driver information systems; freeway ramp metering; and the encouragement of ridesharing options such as public transit, vanpooling, and carpooling. When completed, the planned HOV system within the Puget Sound region will consist of 156 miles, the largest such system in the U.S.

In order to encourage drivers of single-occupant vehicles (SOV) to use alternative means of travel, incentives related to decreased travel time or reduced transportation costs are usually necessary. The more incentives available to the SOV the more likely that person will utilize these alternative transportation modes.

The present tax code penalizes commuters who ride transit, with fares partially or totally subsidized by their employer, if the subsidy is over $15 per month. This same employer can provide unlimited untaxed subsidy for employee parking. In many cases, this parking is free to the employee. In order that the two groups are treated in a more equal manner, WSDOT supports Representative Matsui's proposal of not taxing the first $15 per month of a transit pass if the amount of employer subsidy is over the $15 per month cliff. To provide an even greater incentive to use alternative transportation modes, WSDOT supports an increase in the tax-exempt portion of the transit pass to $60 per month.

Another inequity in the present tax code is the tax imposed upon employees who participate in an employer-sponsored carpool or vanpool program while at the same time no tax is owed if the same employee who drives oneself is provided subsidized free parking from the employer.

If we are to have any chance at all of adequately addressing present and future urban congestion, improve urban area air quality, and reduce transportation energy consumption, I urge congress to repeal the above described provision to help encourage the movement of people rather than vehicles. Tax policy should not be used to encourage increased usage of single occupant vehicles.

STATEMENT OF DAVID RODRICK, CHAIRPERSON

WASHINGTON STATE RIDESHARING ORGANIZATION

My name is David Rodrick. I am the Chairperson of the Washington State Ridesharing Organization (WSRO). This statement is submitted on behalf of WSRO and my remarks represent the position of WSRO on this issue.

I appreciate the opportunity to submit WSRO's statement regarding the effort that the U.S. House of Representatives Ways and Means Committee is making to take steps toward exploring ways that the federal tax system could be used to improve the environment.

First, allow me to explain that the mission of the WSRO is to advocate, promote and support high-occupancy vehicle transportation options throughout the State of Washington. The organization's primary focus is on commuter transportation involving shared-expense vehicles and volunteer drivers. In order to achieve our organizational goals, and the individual goals of the public agencies and private corporations from around the state who belong to WSRO, we must find stronger incentives to encourage our citizens to share-the-ride.

The concerns of WSRO expand beyond the borders of our state in issue areas where opportunity exists to pioneer or mold national policy and actions regarding the environment, air pollution and energy conservation. In fact, although it's true that traffic congestion and urban land use issues are of major concern to our "urban" member organizations, at least half of our member organizations support TDM activities and/or operate ridesharing program in low-density or rural areas of the state. Protection of the environment and prudent use of our Earth's resources are therefore issues that all WSRO members are concerned about; for reasons that span the spectrum.

Of major concern to us is the fact that the present tax code penalizes commuters who ride transit. In cases where employers subsidize monthly fares, partially or totally, in excess of the $15 "cliff", the entire amount becomes taxable to the employee under IRS Regulations. This same employer can provide unlimited untaxed subsidy for employee parking. In many cases, this parking is free to the employee. In order that the two groups are treated in a more equal manner, WSRO supports H.R. 2265, introduced by Representative Matsui's - the proposal to not tax the first $15 per month of a transit pass if the amount of employer subsidy is over the $15 per month cliff. In fact, to provide an even greater incentive to use alternative transportation modes such as buspools, vanpools, carpools, passenger-only ferries, bicycles and walking, WSRO further supports proposals to increase the tax-exempt portion of the transit pass to $60 per month.

In addition to improvements to, and greater equity of tax code regulations regarding tax on the commute-to-work benefits, WSRO encourages creation of **Federal tax subsidy** of vanpools and transit passes as a measure to encourage air quality improvements and energy conservation of fossil fuels as a **National Policy**.

Returning to the issue of parking - another inequity in the present tax code is the tax imposed upon employees who participate in an employer-sponsored carpool or vanpool program. No tax is owed if the same employee drives alone and is provided subsidized free parking from the employer.

This situation clearly provides incentive for both employers and employees to commute to work alone in single-occupant vehicles (SOV) - compounding urban traffic congestion and air quality problems.

Studies in the Puget Sound Region have shown that of the 431,000 tons of carbon monoxide currently emitted into the air in King County each year, 92 percent comes from transportation sources. Ninety-six percent of the county's annual 125,000 tons of suspended particulate emissions are from transportation sources. Future land use practices of spread-out office campus style employment sites which offer free parking encourage increased SOV use, discouraging transit and other HOV use. Increased SOV use means more traffic congestion and slower speeds on our state's (and nation's) highways during rush hours - which means more air pollution.

Our state's Department of Transportation (DOT) has strong policies which make provisions for the necessary transportation mobility elements required by our citizens. Policies promote the movement of people rather than vehicles and multi-modal solutions to transportation problems. Public and private organizations in the state work together with the DOT and each other to preserve mobility by promoting Transportation Demand Management (TDM) options.

However, like most states, Washington State is faced with very large increases in the number of vehicles and vehicle miles traveled, especially within our larger urban areas. WSRO understands and acknowledges that it is not financially, socially, or environmentally feasible to expect or rely primarily on the construction or expansion of freeways and other highways to meet present and future traffic demands.

Due to the shear volume of increased population and subsequent vehicles and vehicle miles traveled on our highways, precious time and ground is being lost to the internal combustion engine. Perhaps the greatest frustration most of us have with urban growth is the growth in traffic congestion which follows closely behind. All too many of those trips are from suburb to suburb, areas often not served by traditional transit, and therefore "designed" to encourage SOV use.

On the bright side of these issues is the example in the urban areas of the Puget Sound Region where there has been comprehensive TDM planning which has put TDM programs in place. Utilization of high occupancy vehicle (HOV) lanes, freeway HOV ramp metering, driver information systems, park and ride lots, and the encouragement of ridesharing options such as public transit, buspooling, vanpooling, and carpooling have contributed in a positive way to energy conservation and air pollution reduction. In addition, the elements of the HOV System work together offering the HOV user the incentive of decreased travel time. When complete, the planned HOV System in the Puget Sound Region will be the largest HOV lane system in the United States, consisting of about 156 miles.

WSRO members are aware that there are those citizens who either can not or will not share the ride; and commute via the single-occupant vehicles. Additionally, quality of life issues and the rights of individuals in society must be honored. We believe, however, that opportunity still exists

for Congress to take measures to improve environmental conditions and conserve energy through creation of a Federal tax subsidy for fuel efficient vehicles. This, along with modification of the "gas guzzler" excise tax, could result in providing a means to the same end that we believe all citizens are seeking; that being preservation of a healthful environment - through fair, well managed public policy.

In order to encourage drivers of SOV to use alternative means of travel, incentives related to decreased travel time or reduced transportation costs are usually necessary. The more incentives available to the SOV user, the more likely that person will change and utilize these alternative transportation modes.

It is not fiscally, socially or environmentally responsible to have national policy which acts as disincentive to TDM programs which are designed to encourage our citizens to use public transportation and other ridesharing options.

If we are to have any chance at all of adequately addressing present and future urban congestion, I urge Congress to repeal legislation which help encourage the movement of people rather than vehicles. It is time for us to work together to level the playing field with Federal tax incentives, and other methods which encourage our citizenry to conserve energy and preserve and protect our environment. The Earth is our legacy to our children and future generations.

Statement of Waste Management, Inc.
Before the
Committee on Ways and Means
United States House of Representatives
March 7, 1990

Waste Management, Inc. (WMI) strongly supports an extension of the tax credit for production of fuels from non-conventional sources. This credit, which is calculated on the basis of the non-conventional fuel's per barrel of oil equivalent, currently applies only to fuels which are (1) produced from facilities placed in service before January 1, 1991 and (2) sold before January 1, 2001. Among the types of non-conventional fuel production covered by the tax credit are projects in which the methane gas generated by sanitary landfills is collected and used as a fuel.

According to recent reports, atmospheric methane has doubled in the last three hundred years. An estimated 425 to 675 million tons of methane are emitted into the atmosphere every year, 7% of which comes from landfills. In its present concentration relative to carbon dioxide, scientists say that methane is responsible for 20% to 25% of whatever global warming results from greenhouse gases that are caused by human activity. Yet methane is also one of the easiest greenhouse gases to control. Because its lifetime in the atmosphere is relatively short, a relatively small reduction in emissions would be necessary to achieve lower overall levels in the atmosphere. For example, according to a recent USEPA report, a reduction of 10% to 20% in emissions would reduce by half the increase in methane in the atmosphere (the current rate of increase is 1% per year). By contrast, it would require a reduction of 50% to 80% to stabilize carbon dioxide levels and almost 100% to stabilize chloroflourocarbons.

WMI has been a pioneer in developing systems for the recovery of the methane gas by-product of sanitary landfills and the use of the gas as a fuel for the generation of electricity and/or steam. For example, at its sanitary landfill near Pompano Beach, Florida, WMI extracts 10 million cubic feet of methane gas from the landfill every day and uses it to produce electricity sufficient to supply power to 5,000 South Florida homes. The electric energy generation potential of this landfill is expected to last for 20 years. The WMI facility in Wayne County, Michigan has entered into a five-year agreement with Ford Motor Company to supply two million cubic feet of methane gas to fuel steam generating boilers at Ford's Michigan truck and Wayne assembly plants. The methane will replace much of the coal now used to fire these boilers.

In all, WMI has 18 gas recovery plants in more than a dozen states. These systems generate more than 80 million watts of electricity, satisfying the electrical needs of more than 100,000 homes. Our total capacity to produce gas for generating power is equal to 1.6 million barrels of oil a year. Landfill gas has a heating value of approximately 500 BTUs per cubic foot, roughly half that of natural gas, and can be used as a medium BTU fuel almost anywhere natural gas is used. The similarities between processed landfill gas and natural gas result in low equipment conversion costs. We consider use of methane energy to be another form of the recycling to which WMI is so committed.

As of 1989, according to the Methane Recovery From Landfill Yearbook, approximately 25 firms had 155 methane recovery projects in the operational or planning stages. Yet the future of these projects is in jeopardy. Even though the USEPA will likely soon require collection and control of landfill gases, most of the 6,000 existing landfills around the country will simply burn, or "flare" it, because gas recovery for energy use is extremely expensive. For example, one turbine, which

would generate 3,300 kilowatts of electricity -- enough to supply 5,000 homes -- costs about $4 million. Expiration of the federal tax credit applicable to these projects will seriously undermine their financial viability.

Under the Public Utilities Regulatory Policies Act of 1978 (PURPA), utilities must purchase electricity generated by small power producers, such as landfill gas recovery projects, at rates reflecting the "avoided cost" to the utility, computed by comparison to the utility's cost of producing the electricity itself using fossil fuels. As the price of fossil fuels has fallen, "avoided costs" also have fallen, resulting in lowered revenue for methane gas recovery projects. The rates paid by electric utilities now are simply too low to finance gas recovery projects. The tax credit enhances the viability of these projects and helps ensure that the air quality benefits of gas-to-energy projects remain achievable. We believe the credit for landfill gas production has had a minimal impact on the Treasury, i.e., well under 5 million dollars in 1988. Moreover, it is an extremely cost-effective method of encouraging environmentally responsible behavior and energy efficiency because only successful, operational projects receive the benefit for fuel actually produced.

Landfill gas-to-energy projects foster the nation's energy and environmental objectives. They also reduce dependence on fossil fuels. Waste Management believes that the tax credit for production of fuels from non-conventional sources should not be allowed to expire.

Jane Seigler
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March 13, 1990

Robert J. Leonard
Chief Counsel
Committee on Ways and Means
U.S. House of Representatives
1102 Longworth House Office Building
Washington, D.C. 20515

RE: Long-Term Strategy Hearing on the Environment

Dear Mr. Leonard:

I would like to submit the following written testimony, for the record, to be considered in the drafting of the National Energy Strategy.

The need for a national strategy is of great importance and affects all sectors of the country, as well as, the world.

The efficient use of energy should allow us to maintain our current quality of life, as well as, address the future quality of life for our children and grandchildren by addressing environmental, as well as, comfort issues, cost issues, supply and demand issues and technology issues.

I believe the root of the problems facing us today is the way in which we as consumers, policy makers, utilities and environmentalists think about energy.

The governmental policy makers seem to have, until now, take a laissez-faire attitude toward energy, allowing the private sector to consume more and more without much regard or knowledge of the consequences to the environment and future. Other than a brief period of time when O.P.E.C. threatened supplies, there has been very little focus on the impact of our domestic energy consumption.

Utilities, but for a few, are not encouraged to conserve in order to satisfy shareholder concerns and therefore, have resorted to selling more and more rather than looking at conservation and demand-side strategies to maximize return to shareholders.

Environmentalists, I believe, have long encouraged conservation and awareness but too often without strategies which allow for economic growth and consumer comfort or standard of living enhancement and all too often without reasonable cost/benefit solutions.

The consumer is often caught in the mood of the day and trapped within the balancing act of the above-mentioned groups. If educated to conserve, they will conserve. If educated to protect the environment they will show concern and react. If presented with higher utility bills they will pay them. Far too often they are not adequately informed of the complex, interrelated issues concerning energy consumption, production and transmission costs in addition to other societal costs associated with national energy independence, environmental damage, and demand charges.

I believe a proven technology exists, for the reasons below, which can be implemented on a large scale to significantly address many of the problems associated with residential and commercial energy consumption. This technology is Geothermal (Ground Source) Heat Pumps. (GHP)

1. Consumer Satisfaction - several studies have been conducted which indicate an extremely high satisfaction level among GHP owners. Studies such as the Department of Energy study under contract DE-AC06-76RLO 1830 and the AHP study for Red River Electric Cooperative indicate customer satisfaction levels as high as 97%. The items mentioned which contributed to this high level of satisfaction were overwhelmingly lower utility bills as well as more comfortable household temperatures, multiple use, cleanliness and safety.

Studies have also shown that the in-ground piping and GHP life should be significantly lengthened over conventional heat pumps which will add reliability and long-term economies to the list of reasons for increased consumer satisfaction.

2. Utility Satisfaction - I would hope that a vast number of electric utilities submit their own testimony on this subject but offer the following as reasons why electric utilities benefit.

A wider utilization of GHP can allow a utility to gradually reshape both residential and commercial load. GHP's will help reduce sharp heating peaks, smooth summer peaks, improve overall load factor, and increase revenues by capturing more of the change out market. The advent of demand water heating technology, such as the WaterFurnace TF Series, gives the added benefit of eliminating simultaneous heating, cooling, and water heating demand.

It becomes evident that the GHP is a viable alternative for utilities looking for long term demand side option strategies. The strategic growth patterns available from GHP are proven by increased load factor, increased shoulder and off peak sales due to the demand water heating system and a new competitive option to challenge the change out and gas heating markets.

The options available by increasing GHP utilization also point to potential benefits for a utility that seeks to extend plant life and delay new generation. It will assist both strategic load growth and strategic conservation plans.

3. Environmental Solutions - There is little doubt that our planet is in the throes of a serious environmental crisis. This crisis is caused by man with many of the symptoms caused by fossil fuels. The statistics of environmental degradation, from acid rain to global warming are alarming. Some reports indicate a worldwide holocaust if left unchecked.

The benefits to electric utilities indicate that GHP consumption can be supplied by less generation of electricity and in fact allows growth with less generation. This reduction in need for generation proportionally reduces the environmental damage caused by such generation.

In addition to reducing environmental damage caused by generating plants the GHP also offers solutions to the issues raised by CFC use. Most GHP's use less than 25% of the refrigerant (R-22) as air heat pumps. In addition to using less refrigerant the GHP are of a simpler design which are sealed at the factory and require no field connection which releases refrigerant during installation.

While R-22 cannot be considered harmless, it is a hydrogenated CFC (HCFC) which is 95% less damaging to our environment than the CFC's (CFC-12) found in automobile air conditioners.

4. Policymaker Benefits - The benefits of adopting a strategy including GHP to policymakers is evident.

It is a technology which is proven by over 50,000 installations in all climates throughout the U.S. The constituents have a very high level of satisfaction by using this technology.

GHP provides environmental solutions without compromising constituency lifestyles and comfort.

GHP is available immediately to begin to solve energy consumption problems.

I would like to close my testimony by offering suggestions on how GHP should be adopted within the overall energy strategy and what measures should be included in the strategy statement.

1. Education - I believe it is absolutely imperative to adopt an aggressive and active consumer awareness campaign on energy efficiency and its benefits.

2. This awareness campaign should be augmented by minimum efficiency standards which are calculated fairly and uniformly for all energy related products. These standards should cover performance and installation to ensure consumer confidence and protection.

3. Utilities need to be required to maximize efficiency and justify expansion plans by considering all societal costs. All feasible demand management/ conservation tools should be used prior to expanding generation capacity.

Incentives for efficiencies should be given to those utilities best utilizing conservation practices. I believe the utilities should be the conduit for any tax incentives contemplated due to their unique ability to control quality and consumer satisfaction.

These incentives can in turn be passed through to consumers/utility customers who utilize technologies to maximize demand management/conservation practices.

4. Research and Development - The GHP has been developed and marketed heretofore without assistance from the governmental sector.

In order to promote this technology to the market, research needs to be done to lower the first-cost to the consumer. This research should focus primarily on the ground-coupling aspects.

Much needs to be learned of efficient ways to couple existing technology to the earth. The earth offers a vast reservoir of energy five to six feet below our feet in all of the U.S.

Research should provide more efficient methods for tapping this energy source.

5. Governmental Structures - We have proven the benefits of this technology in FMHA projects in Arkansas for low income housing financed by the federal government.

Why not mandate these benefits, and use what has been successful, throughout the U.S.?

Why not mandate these same energy efficient devices as well as others that meet the same standards for all governmental structures?

Military bases would provide excellent research facilities/test sites while reducing energy consumption.

If the monies wasted by HUD in the past two years had instead been used to lower energy consumption in low income housing the low income constituents would have been reaping the benefits of lower utility bills for generations.

The GHP industry has grown and continues to grow steadily without governmental support. The attributes this technology offers to an overall energy strategy have been proven. The GHP technology allows residential and commercial consumers to tap the energy inherent in every parcel of real estate in the U.S. We do not need to ship oil from the Middle East to New York or from Texas for that matter to heat and cool and produce hot water. We do not need to continue building higher and higher levels of generating capacity thereby creating higher and higher levels of destructive emissions.

It is apparent to me that the benefits of an educated society inure to all future generations. It is equally apparent to me that the benefits of an energy conserving society inure to all future generations.

My company's mission statement ensures we will strive to provide the most energy efficient products for commercial and residential heating, cooling and hot water applications. We have such a product in GHP by operating 30% more efficiently

than the conventional systems. We intend to introduce in late Spring the next generation of GHP which will offer 30-40% more efficiency than the 1989 models. We will be reaching levels of 5+ C.O.P. which were unheard of two to three years ago.

Thank you for the consideration of this testimony as you develop a most critical strategy.

If I can be of further assistance I would be most willing to help.

Respectfully yours,

Jeffrey J. Harris
President
WaterFurnace International, Inc.

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LAW CENTER

Robert J. Leonard, Chief Counsel
HOuse Committee on Ways & Means
1102 Longwirth, HOB
Washington, DC 20515

March 21, 1990

Dear Mr. Leonard,

PLease add the enclosed materials -- consisting of six copies of a law review article and six copies of a proposed inclusion in the printed record of the recently completed hearings on environmental taxes -- in the product of the hearings.

Very truly yours,

Richard A. Westin
Professor

enc: 12

ENVIRONMENTAL TAXES: SOME OPTIONS

The House Ways and Means Committee recently completed hearings on the relationship of environmental concerns and federal taxes. A variety of measures were considered, including taxes on toxic emissions, excise taxes on certain timber harvests and imports, and various other measures. Perhaps alarmed by an image of reckless but politically popular sin taxes, the Administration spokesman, seeming much like a British Colonel sent out to put down the India Mutiny, reportedly staked out the Administration's position that no environmental tax was acceptable unless whatever the Congress came up with met three Imperial criteria:

-that it be more appropriate to use national than regional standards

-that the legislation be backed by confidence that the tax is set at a level that will achieve the environmental goals without placing an excessive burden on industry, whatever "excessive" might mean, and

-the tax be administerable and collectible[1].

The third criterion is not unique to tax policy matters surrounding environmental issues, and deserves no special mention. The first criterion is obscure. I appears to be a Code for not taxing acid rain production at the source. The second borders on being a truism; only the most rabid environmentalist is likely to propose shutting down an industry, directly or via taxation. There is no doubt that environmental regulation, whatever form it takes, must be considered in light to the burden on industry. The difficult questions are when dealing with an obvious polluter, who should bear the burden of proof that the tax is fixed at precisely the right level? Do we distinguish between polluters that compete internationally, favoring them over more parochial polluters (e.g., cars) whose bad acts can be controlled with only modest economic burdens?

Congress should explore approaches that were evidently not considered at the hearings and that might sit well with both the Administration -- at least if the stated criteria are sincere -- and with at least some members of Congress. The reconciling approach would be to consider measures that invove the withdrawl of tax benefits that have skewed the system in environmentally unsound directions in the past, as well as some major taxes (oil import fees) and protection for major industrial investments.

Percentage Depletion

Our system of offering natural resource extractors the greater

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[1]46 Tax the Villains!: Ways and Means Holds Hearings on Pollution Taxes, 46 Tax Notes 1235 (1990).

of percentage depletion or cost depletion is in need of correction. The current system is awkward and inefficent. It is awkward in that in fact no one knows how many units of recoverable resources there are under the ground because no one has both X-ray vision and a crystal ball to determine future prices of the resource, yet both are needed to calculate cost depletion.[2] For example, if the price of the natural resource commodity declines, the number of recoverable units declines.[3] The system is inefficient because it attracts investment capital into projects on the basis of tax benefits rather than economic value.

By contrast, percentage depletion does not require a guess at to recoverable reserves; one just multiplies the annual sales by a fixed percentage and the depletion figure is known.[4] The trouble with that system is that depletion can exceed the taxayer's basis in the mineral property, which is anathema. Professor Bittker, the reigning tax guru, suggests that the right answer is to use percentage depletion, but to limit it to basis in the mineral property[5]. This would offer much needed tax simplification. One could elminate the tax preference for depletion in excess of basis[6], drop the corporate preference item under section 291(a)(2) and relax some of the other strictures that have turned sections 611-613A into a sweatbox for acountants and lawyers.[7]

From the perspective of the Congress, this measure should raise revenues by removing the windfall element of percentage depletion, which in turn has the appropriate secondary economic feature of tipping the scales a bit in favor of recyling without "putting excessive burdens on industry". It is more administrable than what we have now. Regional disparities in environmental enforcement are irrelevant to this proposed amendment.

Tax Stimuli for Extracting Poisons

Mercury, asbestos and sulphur qualify for the top 22 percent depletion rate[8]. That is plainly out of step with our knowledge of the environmental aspects of these materials. One federal agency

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[2] Section 611; Regs sec. 1.611-2.

[3] See Rev Rul 67-157, 1967-1 CB 154.

[4] Sections 613, 613A.

[5] B.Bittker & L. Lokken, Federal Taxation of Income, Estates & Gifts para. 24.1.1 (2d Ed.).

[6] Section 57(a)(1).

[7] Other examples are the pressure to define mining as broadly as possible, the problem of the lease bonus that is not depletable, and the confusion over mergers of properties by reacquisition to name but a few.

[8]. Section 613(b).

and many State agencies are straining to find viable ways to get them out of our environment; the Code is straining to get them in. Presumably, if would not involve "putting excessive burdens on industry" to cut them down to size. After all, there is no Constitutionally protected right to a tax benefit.[9] Tis will add no complexity to the Code, and it will tip the balance slightly in favor of environmental improvement without the need for polemics. Regional disparities in environmental enforcement are irrelevant to this proposed amendment.

Public Policy Limitation

There used ot be a generic public policy limitation on deductions that, if permitted, woould frustrate a sharply defined State policy.[10] As far as business deductions go, that doctrine went the way of the dodo, and was replaced by specific normative limitation found in section 162.[11] It should be possible to define a set of environmentally offensive behaviors the expenses of which cannot be deducted under section 162. The public seems more than ready for it. The burden on industry is hardly going to be overwhelming. Again, regional disparities in environmental enforcement are irrelevant to this proposed amendment.

Fashioning the language of this proposal may be difficult. It may be best to incorporate the prior public policy limitation by reference as it stood before the amendments to section 162 and limit the new rule and limiting it to environmental concerns that embodied in pertinent State or federal legislation.

Timber

The planet may be heating up at a steady clip. If so, we are by all accounts in for alot of trouble. One implication is that there will be a high rate of timber mortality. If the process were to occur far more gradually, the trees would migrate (via their progeny) to a cooler climate by a slow process of dissemination of seeds. Because of the long growing cycles of trees, prudence dictates that new tree plantings be of species that are adaptable to a warmer climate.

The Code offers two major sets of tax benefits to the timber industry. One is an accelerated amortization deduction for timber forestation and reforestation[12] designed to for the small timberowner, and a companion 10 percent investment tax credit for

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[9] See Willaims, Retroactivity in the Tax Field, 1960 So Cal Tax Inst 79.

[10] See, e.g., Tank Truck Rentals, Inc. v. Commissioner, 356 U.S. 30 (1958).

[11] For example, the disallowance of deductions for certain fines and penalties is now found in section 162(f).

[12] Section 194.

the same expenditures.[13] The other is an opportunity to treat timber harvesting as generating long-term capital gains. Specifically, section 631(a) permits taxpayers to elect to treat timber felling as a hypothetical sale of a section 1231 asset and section 631(b) in effect converts timber royalties into a stream of section 1231 payments. At present, there is of course no capital gains preference, so section 631 ia a dead letter except for taxpayers with major capital loss carryovers, but reinstatement of the capital gains preference will return the timber industry to a favored status.

It would be a very modest proposal to suggest that the timber tax credit and the accelerated amortization provisions depend on the taxpayer's planting trees that are capable of withstanding a warmer environment. One might argue that self-interested taxpayers will recognize the risk and will not choose to plant trees that are significantly at risk in a warmer environment. On the other hand, prudence dictates not taking such a laconic view. Implementing this proposal will call for modifying State and federal programs to assure that trees provided from government tree farms, the primary source of seedlings, are appropriately modified. If this seems like an extreme proposal, contemplate the public hysteria that could set in if indeed thre were a dramatic worldwide tree loss based on irreversible climate changes.

The question of not granting the timber industry reinstatement of section 631(a) and (b) merits attention. The rationale would be that capital was inefffectively deployed any time it went an industry solely because of its opportunity to enjoy a long-term capital gain result. On the other hand, if section 631 were wiped away, clever taxpayers might find other ways to garner a capital gain result, such as bulk sales of standing timber.[14] Moreover, to the extent that capital gains operates as a device to mitigate the tax hardships of inflation, section 631 is an appropriate device. Perhaps instead of threatening to remove section 631,it would be wiser to tie its availability to a demonstrable program of adapting new plantings to the risk of global warming.

Reserve Accounting and Insurance

Section 468A(b) grants a deduction for actual contributions made to a reserve for nuclear decommissioning expenses. The addition to the reserve is deductible in a carefully tailored manner to assure that there is an appropriate growth rate in the fund. The earnings in the fund are taxed at top corporate rates. The fund must be terminated when it expires and it is appropriately cicumscribed to assure that it is used only for its intended purpose. The result is a current deduction for a current disbursement and a current burden on ratepayers that reflects their share of the huge costs of dismantling and disposing of the nuclear

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[13] Sections 48(q), (a)(1)(F) and 49(b)(3).

[14] This was just the problem that led t enacted of the predecessor to section 631. See 1944 C.B. 973, 993.

powerplant with respect to which the fund was established.

By contrast, the mine closing and solid waste reclamation deduction of section 468 is largely eyewash. The deduction is available even if not a dime goes into any reserve fund. This is poor tax policy bceause bad actors that meticulously follow the formalities required to claim the deduction but who never pay in (perhaps because of a discharge in bankruptcy) are rewarded; good actors that try to conform to the complex requirements of section 468 may get no deduction even though they in fact fund a reserve with the regularity of a metronome.

The obvious answer is to condition the deduction the same way the deduction for nuclear decommissioning is conditioned. That is, imposing the condition of actually contributing prevents the current windfall. If the law is changed, administrative burdens shudl roughly balance out; fewer taxpayers will join the program, but the IRS's audit responsibility will expand to include assuring that there a till for each taxpayer claiming the deduction and money in each such till. The "burden on industry" is a illusiory. A windfall is being withdrawn; those who want to match deductions with cash can do so at will.[15]

Corporate Shell Games and Subchapter C

Section 355 transactions (nontaxable corporate divisions) call for a business purpose. There is no doubt that isolating risky activities in an undercapitalized subsidiary constitutes a good business reason for the incorporation or division.[16] This should not be. It is absurd tax policy. Unfortunatly, making the transaction taxable is not enough. There has to be a better system of risk-shifting. That matter is discussed next.

Self-Insurance

The market for environmental liability insurance is drying up.[17] If self-insurance or reserve accounting are not availabile, and if the business is otherwise profitable, the rational businessperson will likely choose to isolate the activity in a separate corporation and have it make do with little or no liability coverage. This raises difficult policy choices. The

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[15] I would suggest that in order to make this program more viable, the funds should be allowed to grow interest-free until disposed of, at which time and unused funds would be taxed. Alternatively, one could allow a current deduction for an amount somewhat larger than the actual contribution and tax the earnings in the reserve.

[16] See B. Bittker & J.Eustice, Federal Income Taxation of Cororations and Shareholders para 13.09 (1979 ed.) and Rev Rul 76-187, 1976-1 CB 97.

[17] United States General Accounting Office, Hazardous Waste: Issues Surrounding Insurance Availability 17-27 (1987).

ideal solution would be a nontax pincers action in which continued operation of the activity depended on getting insurance coverage, with the US government as the insurer of last resort. Like any other insurer, the government could compel the insured to adapt its industrial or commercial processes to minimal standards of environmental conduct or lose coverage.

If this approach is not adopted (and it does not seem likely that it will be), then society must continue to make ad hoc regulatory judgements about what activities it is willing to accept and on what conditions. If the activity involves significant health risks, those risks should be covered by adequately monitored reserves that are on hand to cover future contingencies. The sophisticated distinction between reserve accounting and self-insurance can be dumped in favor of allowing a deduction for any actuarially sound contribution of money to an adequately monitored fund. The transfer should be deductible on the spot. This will likely cost revenue dollars, but it will not permit windfalls. The "burden on industry" will be negative, and compliance problems should not be significant. The cookie cutter (section 468A) has already been invented. It needs only to be applied more widely.

Gas Tax or Oil Import Duty?

An oil import fee is better than a a gas tax from an environmental perspective. A gas tax will merely be loaded on top of the cost of gas. For example, if the world price of oil is $20, the gas tax might be 15 cents per gallon and the price at the pump might be $1.15 per gallon as opposed to $1.00 per gallon. If the price of oil rose to $25.00/barrel the price at the pump might rise to $1.25 on top of which there would be either a 15 cent tax if the tax were imposed by volume only or 18.75 cents per galllon, for a total of $1.4375 per gallon. However it is structured, the proposed gas tax will raise revenues and encourage fuel efficiency, but the results are haphazard as they depend on world oil prices.

The important defect is that such a tax does nothing to stimulate oil and gas production or stimulate creative purveyors of alternative energy sources to come up with new processes and inventions. Both groups remain hamgstrung by the common problem of uncertainty as to price, which operates as a sword of Damocles. Both will withhold their capital and services until they are confident that energy prices are well over the minimum threshhold needed to motivate action.

Assuing a flexible duty were imposed that kept the domestic price of oil constant (say a duty that kept oil at $25.00 per barrel), an enormous amount of uncertainty would be taken out of the oil and gas business. That is, if the price were known in advance, oil and gas operators could much more readily undertake risky or expensive new projects; exactly the same reasoning would motivate alternative energy providers, the industry we apparently must look to in the long run to solve out energy needs.

There are complications. The duty must include refined product landing in the US, international oil companies' overseas

reserves should be grandfathered[18], arrangements should be worked out with Canda and Mexico and perhaps Britain. Low income consumers in the Northern states should be provided a credit for the increased burden of the tax.[19]

Price stability is far more valuable to oil and gas exploration that percentage depletion deductions. The Administration's claims that they are out to help exploration via tax stimulation is largely eyewash. A tax break is ultimately useless if the project loses money, and percentage depletion is of value prmiarily after the cost of the property has more than been recovered by production.

The Risks of Novel Investments

Inverse condemnation occurs when a property owner's property value is diminished by government regulation. A classic example of potential inverse condemnation is DuPont's problem with replacing CFCs (chlorofluorocarbons) with HCFCs (hydrchlorofluorocarbons). HCFCs are about 10% as damaging to the ozone layer as CFCs[20]. DuPont took the bold step of declaring that it was going out of the CFC business and, after expensive research, has invented some viable but imperfect substitutes for HCFCs. More are needed. The costs of building manufacturing facilities for the new products are huge, as are the costs of retrofitting old refrigeration equipment by rospective purchasers of HCFCs. The paradox for DuPont and its buyers is that by the time they are busy producing HCFCs, they may be banned or restricted. In light of that undertainty, the incentive to change over to HCFCs is significantly dampened.

What should be done? Tax credits and accelerated depreciation for innovative equipment and costs retrofitting? A promise of a check from the Treasury if HCFCs are banned or restricted? An assurance of no legal change? Whatever the right solution may be, the present arrangements will not do.

Proposal 1: Combine cost depletion and percentage depletion.

Proposal 2: Review the percentage depletion rates and drop the percentage depletion rates for uranium, asbestos, mercury and sulphur.

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[18] This could be done by actually protecting production from each field, or (perhaps more easily) by having each company declare its overseas reserves and then permit each international oil company to import that much from abroad without worrying aabout its actual source.

[19] In this connection, Senator Bradley held hearings some years ago that concluded that the inequities of the oil import duty could be remedied by a tax redistribution.

[20] Ozone Issue: Economics of a Ban, NYT 1-11-1990, p.25.

Proposal 3: Limit deductions for environmentally offensive activity.

Proposal 4: Evaluate timber tax incentives in light of global warming. Tie tax benefits to appropriate planting.

Proposal 5: Coordinate mine closing reserves with nuclear decomissioning reserve accounting

Proposal 6: Disallow section 351 and 355 treatment if the purpose of the corporate division is to isolate environmentally hazardous activity in a shell corporation.

Proposal 7: Expand reserve accounting and self-insurance for high risk activities.

Proposal 8: Pass an oil import duty

Proposal 9: Evaluate ways, including tax incentives, to minimize inverse condemnation with respect to new environmental technology.

THE RELATIONSHIP OF FEDERAL INCOME TAXES TO TOXIC WASTES: A SELECTIVE STUDY

*Richard A. Westin** and *Sanford E. Gaines***

I. ORIENTATION

Every year, American industry generates about 250 million tons of wastes considered hazardous to human health and the environment.[1] Some hazardous waste is industrial wastewater, which generators treat and then discharge into rivers, lakes, and bays, leading to toxic contamination of many water bodies.[2] Some of the waste is incinerated,[3] emitting small amounts of toxic substances into the atmosphere.[4] Under current and past prac-

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[1] Recent estimates range from 247 to 266 million tons depending on how the estimate was made and what wastes were included. THE CONSERVATION FOUNDATION, STATE OF THE ENVIRONMENT: A VIEW TOWARD THE NINETIES 158–65 (1987) [hereinafter STATE OF THE ENVIRONMENT]. Even as a legal matter the definition of hazardous waste varies in context. *Compare* Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6921(a) (1982) (defines hazardous waste in terms of toxicity, persistence, degradability, flammability, and corrosiveness) *with* Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9601(14) (1982 & Supp. IV 1986) (defines hazardous substances in terms of lists of substances under various environmental statutes).

[2] According to one study, 22% of hazardous wastes are released to sewers or surface waters. STATE OF THE ENVIRONMENT, *supra* note 1, at 165 (citing a study by the Congressional Budget Office).

[3] In 1983, the estimate was one percent but that figure has probably increased as land disposal has been restricted. *Id.*

[4] *E.g.*, 40 C.F.R. § 264.343 (1987) (permits small quantities of toxic emissions). *See also* Nash, *Assessing the Health Risks From Municipal Waste Incineration: An Example From Philadelphia*, ENVIRONMENTAL IMPACT ASSESSMENT REVIEW, Sept. 1987, at 249.

tices, the largest portion of hazardous waste ends up in landfills, where it remains a potential environmental threat for decades to come.[5]

With the passage of the Resource Conservation and Recovery Act (RCRA)[6] in 1976, Congress began to regulate the disposal of hazardous waste. It followed this initiative in 1980 with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund),[7] which tackled the problem of cleaning old waste sites. In their original form, both solid waste laws reflected a technological optimism that the country could safely continue profligate production of waste materials so long as it applied better technology (like double liners in landfills) and cleaned up the old, abandoned dumps.

In the 1980s, it became apparent to Congress that no disposal systems could guarantee perpetual containment. Regulation of treatment and disposal of waste, while important, was therefore simply not enough. As a result, Congress broadened the attack and shifted the focus from palliative to preventive measures. For example, the 1984 amendments to RCRA[8] promote treatment and destruction of hazardous waste through a phased-in prohibition of land disposal of most untreated wastes.[9] They also promote steps by manufacturers to minimize the generation of hazardous waste by industrial processes.[10] In 1986, Congress increased funding for the "Superfund" waste site clean-up program five-fold, to a targeted level of $8.5 billion for the period 1986–90.[11] Two years later, in keeping with the new emphasis on treatment of currently generated waste, Congress redirected waste site cleanup from the practice of simple removal to

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[5] The Congressional Budget Office and the U.S. Environmental Protection Agency each estimated in the early 1980s that at least two thirds of hazardous waste was disposed of on land. STATE OF THE ENVIRONMENT, *supra* note 1, at 165.

[6] 42 U.S.C. §§ 6901–6991 (1982, Supp. IV 1986 & West Supp. 1988).

[7] 42 U.S.C. §§ 9601–9675 (1982, Supp. IV 1986 & West Supp. 1988).

[8] The Hazardous and Solid Waste Amendments of 1984, Pub. L. No. 98-616, 98 Stat. 3221 (codified as amended at 42 U.S.C.A. §§ 6901–6991(i) (West Supp. 1988)).

[9] 42 U.S.C. § 6924(d)–(g) (Supp. IV 1986) (land disposal prohibition); 42 U.S.C. § 6924(m) (Supp. IV 1986) (no prohibition for treated wastes). The Environmental Protection Agency has begun to implement provisions through regulation. *E.g.*, 53 Fed. Reg. 30,908 (1988) (to be codified at 40 C.F.R. pt. 148); *id.* 31,138 (to be codified at 40 C.F.R. pts. 264, 265, 266, 268 and 271).

[10] C. HARRIS, W. WANT & M. WARD, HAZARDOUS WASTE: CONFRONTING THE CHALLENGE 162–66 (1987) (describing section 224 of the Hazardous and Solid Waste Amendments of 1984).

[11] Superfund Amendments and Reauthorization Act of 1986 (SARA), Pub. L. No. 99-499, 100 Stat. 1613, § 111(a) (Supp. IV 1986) (amending CERCLA, 42 U.S.C. § 9611(a) (1982)).

a more secure landfill toward a clear preference for permanent treatment or destruction of the waste material.[12]

Many states have been equally aggressive about trying to discourage simple waste disposal.[13] Some states have even attempted to restrict the flow of hazardous waste into their territory.[14] Local governments have often adopted similar restrictions[15] spurred on by increasingly vociferous citizens who unabashedly embrace the "not-in-my-back-yard," or NIMBY, philosophy.[16]

More demanding federal regulation, universal local opposition to waste treatment and disposal facilities, and increased long-term liabilities for waste sites have substantially restricted the supply of licensed waste handlers[17] and have sharply increased the costs of waste disposal.[18] As a result of increased costs and downstream liabilities for cleanup, industrial generators have begun to examine more closely their waste management practices and opportunities

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[12] SARA § 121(b), 42 U.S.C. § 9621(b) (Supp. IV 1986).

[13] *E.g.*, California Hazardous Waste Control Act, CAL. HEALTH & SAFETY CODE §§ 25100–25250 (West 1984 & Supp. 1989); New Jersey Solid Waste Management Act, N.J. STAT. ANN. § 13.1E-1 to -135 (West 1979 & Supp. 1988).

[14] Efforts to ban all importation of out-of-state hazardous waste have fallen under commerce clause challenges. *See, e.g.*, Philadelphia v. New Jersey, 437 U.S. 617, 629 (1978). Strict state regulations and taxation of waste generation and disposal, however, have generally survived challenges based on the supremacy clause or on federal preemption grounds. *See, e.g.*, Exxon Corp. v. Hunt, 97 N.J. 526, 543–44, 481 A.2d 271, 280–81 (1984); *see also* CAL. VEH. CODE §§ 31303–31304 (West Supp. 1989). *But see* Rollins Envtl. Serv., Inc. v. Parish of St. James, 775 F.2d 627, 637–38 (5th Cir. 1985).

[15] *See, e.g.*, ANNE ARUNDEL COUNTY, MD., CODE § 11–408(g)–(i) (1979); *see also* Browning-Ferris Inc. v. Anne Arundel County, 292 Md. 136, 438 A.2d 269 (Ct. App. 1981) (upheld certain features of the county ordinance to control hazardous waste through transport and disposal requirements).

[16] Lester, *EPA Says: Build a New Superfund Site or Lose Money to Cleanup the Ones You've Got*, 6 EVERYONE'S BACK YARD (Citizens Clearinghouse for Hazardous Waste) Spring 1988, at 8. The very title of this publication from a citizens grass roots organization alludes positively to the NIMBY—"Not In My Back Yard"—philosophy. For a discussion of the NIMBY syndrome, see Brion, *An Essay on LULU, NIMBY, and the Problem of Distributive Justice*, 15 B.C. ENVTL. AFF. L. REV. 437 (1988).

[17] "In the United States, the number of active, land-based hazardous waste sites has dropped by two-thirds over the last [1986–87] year because of failure to meet deadlines for complying with operating requirements. The nation's 13 commercial incinerators are operating at 90 percent of capacity; local opposition makes siting new facilities extremely difficult." S. POSTEL, DEFUSING THE TOXICS THREAT: CONTROLLING PESTICIDES AND INDUSTRIAL WASTE 40–41 (Worldwatch Institute, Paper No. 79, 1987).

[18] "As demand outpaces supply and as tighter regulations are placed on disposal technologies, waste management costs are rising rapidly. Landfill prices have skyrocketed to $240 per ton, a 16-fold increase since the early [1970s]. Incineration of organics now costs between $500 and $1,200 per ton. Waste management costs for DuPont, the nation's largest chemical producer, now exceed $100 million annually." *Id.* at 41.

they may have to reduce the amount of hazardous waste they generate.[19]

Waste comprises all non-product hazardous outputs from an industrial operation into all environmental media, even though such outputs may be within permitted or licensed limits.[20] Waste reduction focuses on "in-plant practices that reduce, avoid, or eliminate the generation of hazardous waste so as to reduce risks to health and the environment."[21] The strategies available for reducing waste include using different raw materials in production, modifying production technology, operations, and procedures, recycling waste within plants, and redesigning end-products.[22]

Although market forces have begun to modify industrial behavior, many policy analysts find the pace of improvements in waste treatment and waste reduction unacceptably slow. Looking ahead to the next decade, they point out the ultimate futility of treating waste disposal as a single issue of land use or water pollution, and recommend that the private and public sectors alike move toward an integrated approach to waste management and waste minimization.[23] Politicians, industrialists, academicians, and ordinary citizens share the perception that hazardous waste is a pressing national problem and urge that it be solved.[24]

Reduction of waste at the source has gained special attention as a promising adjunct to the statutory policies for proper disposal and cleanup of old wastes. The congressional Office of Technology Assessment has prepared two studies on waste reduction. One of these

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[19] Strelow & Claussen, *Liability Management in Practice: Waste Generators*, 25 HOUS. L. REV. 943 (1988).

[20] U.S. CONGRESS, OFFICE OF TECHNOLOGY ASSESSMENT, OTA-ITE-317, SERIOUS REDUCTION OF HAZARDOUS WASTE: FOR POLLUTION PREVENTION AND INDUSTRIAL EFFICIENCY 3 (1986) [hereinafter SERIOUS REDUCTION OF HAZARDOUS WASTE].

[21] *Id.*

[22] The Office of Technology Assessment cites immediate pratical measures such as mechanical polishing of metals rather than polishing with solvents, and substituting water-based solutions for those that use hydrocarbon-based solvents. *Id.* at 4.

[23] THE CONSERVATION FOUNDATION, STATE OF THE ENVIRONMENT: AN ASSESSMENT AT MID DECADE 11–12, 319–21 (1984). *See also* SERIOUS REDUCTION OF HAZARDOUS WASTE, *supra* note 20, at 5.

[24] *See, e.g.*, STEERING COMMITTEE ON HAZARDOUS WASTE CLEANUP, THE CONSERVATION FOUNDATION CLEAN SITES AND PRIVATE ACTION: A PLAN TO ACCELERATE PRIVATE HAZARDOUS WASTE CLEANUP 7–10 (1984) (the Steering Committee included industrial leaders, heads of citizen environmental organizations, and two former public officials); Biden, *A New Direction for Environmental Policy: Hazardous Waste Prevention, Not Disposal*, 17 Envtl. L. Rep. (Envtl. L. Inst.) 10400 (1987); C. HARRIS, W. WANT & M. WARD, *supra* note 10, at 8–15.

studies espouses the concept of source reduction;[25] the other proposes government research, support, and regulation to promote it.[26] Academic researchers have studied the European approach to waste management, and have found many of their legal and technological waste reduction strategies applicable in the American context.[27] The studies conclude that government regulation and public financial support have their role in waste reduction, but private industry inevitably bears primary responsibility for product and process changes to reduce the volume and toxicity of waste.

The urgent need to marshall the full range of industrial strategies to achieve significant reduction in the amount and toxicity of hazardous waste and the environmentally sound treatment of residual wastes suggests the need to investigate whether the economic incentives embodied in the tax code harmonize with the national hazardous waste management policy or set up dissonances with the policy that discourage private cooperation.[28] This Article probes the extent to which federal taxes, as reflected in the Internal Revenue Code of 1986[29] (the Code) and elsewhere, are compatible or incompatible with federal environmental policies with respect to hazardous wastes.[30]

After a brief discussion in Part II of the lack of specific environmental policy input into the drafting of tax legislation, this Article proceeds in Part III to the analysis of the Code provisions affecting firms' management of wastes and their associated risks. This analysis is organized according to the general character of the industrial

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[25] *See* SERIOUS REDUCTION OF HAZARDOUS WASTE, *supra* note 20.

[26] U.S. CONGRESS, OFFICE OF TECHNOLOGY ASSESSMENT, OTA-ITE-347, FROM POLLUTION TO PREVENTION: A PROGRESS REPORT ON WASTE REDUCTION–SPECIAL REPORT (1987); *see also* Kehne, *Encouraging Safety Through Insurance-based Incentives: Financial Responsibility for Hazardous Wastes*, 96 YALE L.J. 403 (1986).

[27] B. PIASECKI & G. DAVIS, AMERICA'S FUTURE IN TOXIC WASTE MANAGEMENT: LESSONS FROM EUROPE (1987).

[28] This Article should not be taken to suggest that tax policy should be used affirmatively to promote non-revenue goals. We take no position here on that controversial question. Even viewing the tax code as exclusively a revenue policy statement, however, it remains relevant to inquire whether the code works at cross purposes to other social policies, and to suggest changes that would make the code at least "policy neutral."

[29] 26 U.S.C. §§ 1–9602 (1982 & Supp. IV 1986). Section references are to the 1986 Internal Revenue Code unless otherwise indicated.

[30] The domestic focus avoids many difficult issues that would greatly complicate the analysis. For example, it may be timely to suggest that tax benefits should be withdrawn for imports that entail damage to the entire planet, such as products that release chlorofluorocarbons that deplete the vital ozone layer. Additional tax issues arise with respect to export activities that may affect the environment of other countries. These questions deserve research and analysis, but are simply beyond the scope of this Article.

activity affected. Section A deals with the general policy underlying tax deductions. Section B deals with the specifics of industrial operations, including the tax treatment of raw materials, or feedstocks, that are introduced into the production process and tax incentives related to changes in industrial processes and new production technologies. Section C discusses the tax treatment of waste disposal, including both pollution control equipment to treat waste before release to the environment, as well as ultimate waste disposal. Finally, section D considers tax effects on the expenses and insurance or capital accumulations to cover liabilities that may accrue to firms after disposal of waste.

II. Tax Legislative Process and Environmental Issues

In spite of the heightened awareness of environmental issues and Congress's detailed legislation in the past twenty years on a vast range of environmental issues, the legislative process for writing tax law[31] still has no systematic environmental input. The Constitution calls for tax legislation to begin in the House of Representatives and, implicitly, to move to the Senate and to the Executive for approval or veto.[32] In fact, such legislation commonly originates in the Executive Branch, goes to both houses of Congress, and invariably goes into a House-Senate conference before being revoted by the House and Senate. Hearings may or may not be called.

An army of experts interacts with any tax legislation. The Administration has its own experts, particularly in the Office of Tax Legislative Counsel[33] and the Congress has expert staffs at the House Ways and Means Committee and Senate Finance Committee levels. In addition, the staff of the Joint Committee on Taxation operates continuously regardless of legislative activity in the year.[34] Yet nowhere in the system does a particular official, committee, or other entity have the assignment to evaluate tax legislation from an environmental perspective.

The *ad hoc* nature of the relationship between federal tax legislation and environmental concerns suggests the need to subject the environmental impact of tax legislation to mandatory thoughtful evaluation and comments. Two avenues to implement such a change

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[31] *See generally* Surrey, *The Federal Tax Legislative Process*, 31 Rec. A.B. City of New York 515 (1976); Graetz, *Reflections on the Tax Legislative Process: Prelude to Reform*, 58 Va. L. Rev. 1389 (1972).

[32] U.S. Const. art. I, § 7, cl. 1.

[33] A segment of the Treasury Department.

[34] *See Washington Report: The Joint Committee on Taxation*, 11 Tax Advisor 181 (1980).

exist in the National Environmental Policy Act (NEPA).[35] One avenue is the Council on Environmental Quality (CEQ) in the office of the President.[36] CEQ should advise the President and Secretary of the Treasury on environmental effects of the tax code. The other avenue is NEPA's requirement for an environmental impact statement on all proposals for legislative action,[37] a requirement that observers have called NEPA's "neglected mandate."[38]

In both cases, however, the environmental impact assessment mandate applies to the Executive Branch only,[39] and would not affect the congressional end of the legislative process. Congress has substantial expertise available on environmental affairs. To bring this expertise to bear on the analysis of tax legislation, however, would require rules changes and perhaps increased staff. Because most tax legislation actually originates in the Executive Branch, a strict application of NEPA therefore appears to be the more effective approach.

III. Tax Code Treatment of Toxic Wastes

A. Public Policy Limitation on Deductions

1. The Limitation in General

All tax deductions were once subject to the so-called "public policy limitation," the gist of which was to disallow a deduction in any instance in which allowing the deduction would frustrate a sharply defined governmental policy.[40] That limitation remains embedded in the Code. Thus, for example, deductions for casualty losses,[41] losses from extraordinary obsolescence,[42] and depreciation[43] continue to be

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[35] National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321–4370(a) (1982 & Supp. IV 1986).

[36] *Id.* § 4342.

[37] *Id.* § 4332(2)(C).

[38] F. Anderson, D. Mandelker, & A. Tarlock, Environmental Protection: Law and Policy 718 (1984). The tax legislative process has two separate phases. One entails drafting changes in tax law, both to improve the tax code and to raise appropriate levels of revenue. The second entails appropriating funds. In Andrus v. Sierra Club, 442 U.S. 347 (1979), the Supreme Court held that NEPA does not apply to appropriations legislation. Because the tax law writing process necessitates amendments to the United States Code, however, it is inherently substantive in nature and therefore warrants environmental impact analysis under NEPA.

[39] 42 U.S.C. § 4332(2).

[40] *See, e.g.*, Tank Truck Rentals, Inc. v. Commissioner, 356 U.S. 30 (1958).

[41] I.R.C. § 165 (1986).

[42] *Id.*

[43] *Id.* §§ 167–168.

affected by this limitation. The major exception to the public policy limitation is the narrower limitation on trade or business expense deductions (section 162) and investment-related expense deductions (section 212). For these types of expenses, sections 162 and 212 provide an exclusive short list of circumstances that bar deductions on public policy grounds, namely, certain payments for legislative activities, illegal bribes and kickbacks, treble damages payments under the anti-trust laws, and fines and penalties.[44] Sections 162 and 212 are otherwise free of moralizing.

Section 162 is the workhorse of the Code. It permits deductions for wages, salaries, rents, and the day-to-day costs of running a business.[45] The very breadth of section 162 greatly narrows the public policy limitations on business expense deductions because it makes most business deductions legitimate. Still, some residual environmental issues might be the subject of later tax controversies not involving section 162. For example, the public policy limitation should apply to claims for depreciation (otherwise deductible under sections 167 or 168) of conduit or pipe used to direct unpermitted discharge of toxic wastes into a river, or to disallow deductions for losses resulting from the unlawful abandonment of dump sites laden with hazardous materials. The fact that some depreciation expenses may violate public policy appears to have eluded the detection of the commentators. Given the paucity of administrative or judicial guidance, taxpayers cannot be expected to impose the public policy limitation on themselves in preparing their tax returns.

This observation has important implications for waste policy. If taxpayers are not barred from claiming deductions for environmentally destructive business behavior, it amounts to a Code subsidy for facially illegitimate behavior. A student of the tax laws will not be surprised; the purpose of the Code is to raise revenue, subject only to a few broad theoretical constraints, one of which is that businesses, good or evil, should be taxed on their *net* incomes.[46] Because ill-gotten gains are taxed, the costs of producing such gains are generally deductible provided they are "ordinary and necessary," a term used in sections 162 and 212.

"Necessary" means appropriate and helpful to earning money.[47] Virtually any business-related expenditure qualifies under this stan-

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[44] *Id.* § 162; Treas. Reg. § 1.212-1 (1988).

[45] I.R.C. § 162(a).

[46] *See* B. BITTKER & M. MCMAHON, JR., FEDERAL INCOME TAXATION OF INDIVIDUALS ¶ 2.1 (1988).

[47] Welch v. Helvering, 290 U.S. 111, 113 (1933).

dard.[48] "Ordinary" is generally interpreted to mean "not capital in nature," that is, short-term in nature,[49] although there is also modest authority for the proposition that ordinary means "not strange."[50]

The notion that ordinary means "not strange" is sometimes used to strike down deductions that for some reason or other offend a court.[51] A court might dredge it up to deny a section 162 deduction on sufficiently egregious facts, for instance, to deny deductions for the costs of unlawfully carting off and dumping toxic wastes. There is apparently no decision on point with respect to environmental issues, so this occasional interpretation of "ordinary" has been of no value in the campaign to diminish the attractions of engaging in environmentally unsound actions. Because of its rare use in only extreme cases, it seems destined to remain a weak weapon.

The amorality of the Code should not be exaggerated. In numerous particular instances, the Code denies business deductions for normative reasons to foster policies of less than overwhelming concern. For example, net wagering losses are disallowed even though the taxpayer might be a professional gambler.[52] Similarly, losses on the disposition of certain unregistered securities are barred[53] and the costs of broadcasting ads into the United States are nondeductible if transmitted from a country with a corresponding rule.[54] The Code subjects producers and disposers of hazardous wastes to no such limitations, however. While it is not surprising to find that section 162 has not been applied to deny deductions for environmentally unsound behavior, the failure to do so is puzzling when less significant norms have already upset the generalization that any short-lived cost of generating taxable income is currently deductible.

Even though Congress has failed to harness the Code to discourage environmentally unsound business practices, it is possible that the courts could use the existing Code to disallow deductions for environmentally destructive expenditures. To do so, however, judicial interpretation of section 162 of the Code would have to be conspicuously "stretched." At present, the Code effectively encourages unsound practices. Similarly, other less significant Code sections (most notably that for losses)[55] could be, but have not been,

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[48] *See* 1 B. BITTKER, FEDERAL TAXATION OF INCOME, ESTATES & GIFTS, ¶ 201.1 (1981).

[49] Commissioner v. Tellier, 383 U.S. 687, 689–90 (1966).

[50] Welch v. Helvering, 290 U.S. 111, 113–14 (1933).

[51] *See, e.g.*, Raymond Bertolini Trucking Co. v. Commissioner, 736 F.2d 1120 (6th Cir. 1984).

[52] I.R.C. § 165(d) (1986). *But see* Commissioner v. Groetzinger, 107 S. Ct. 980 (1987) (minimum tax).

[53] I.R.C. § 165(j) (1986).

[54] *Id.* § 162(j).

[55] *Id.* § 165.

interpreted to prevent deductions for environmentally undesirable behavior.

2. The Deductibility of Punitive Damages

The Code does not prohibit the deduction of punitive damages, except for treble damages under the anti-trust laws.[56] In other words, section 162 does not bar a deduction for paying punitive damages for egregious behavior in connection with environmental malfeasance. Allowing tax deductions when punitive damages are assessed for environmental misconduct leading to personal injuries, however, represents questionable policy. While it does not positively *encourage* bad acts, the deduction certainly mitigates the sting of judicial sanctions for acts such as negligent spills of dioxin-tainted wastes. Even if judges and juries take deductions into account when fixing the amount of damages,[57] they will be unaware of the particular judgment-creditor's tax burden, making any judicial tax accounting haphazard.

The question of punitive damages for environmental malfeasance has raised considerable controversy.[58] The Code should prohibit deductibility for several reasons. If not deductible, the financial burden of the liability will be uniform, regardless of the payor's tax posture. In addition, withdrawing the deduction will operate as an unqualified disincentive for all taxpayers. Finally, legislative policy and judicial action seem to regard environmental malfeasance as more socially reprehensible than anti-trust conspiracies.[59] Consequently, section 162(g) should be expanded to disallow deduction for punitive damages for such behavior.

3. Illegal Payments

Illegal bribes and kickbacks are nondeductible.[60] Prohibiting deductions for such expenses covers specific circumstances in environ-

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[56] *Id.* § 162(g).

[57] Empirical evidence on this question appears to be lacking.

[58] *See* 2 Toxic L. Rep. (BNA) 26–27 (June 3, 1987). Most such awards have come in cases brought on a products liability theory. Proposed federal legislation, H.R. 1115, 100th Cong., 2d Sess. (1987), would make it more difficult for courts to impose such damages. *Id.*

[59] *See* 18 Env't Rep. (BNA) 584 (June 12, 1987). At a time when antitrust enforcement is declining, environmental enforcement, including criminal prosecution, is increasing in response to public attitudes. *Id.*

[60] I.R.C. § 162(c)(1) (1986).

mental affairs such as bribes paid to an environmental agency investigator.[61]

A broader provision, section 162(c)(2), denies trade or business deductions for "other illegal payments," meaning payments to any person if it is a bribe, kickback, or other illegal payment under any federal law or any state law, provided the state law is generally enforced and subjects the payor to criminal penalty or loss of license to engage in a trade or business, whether or not imposed on the taxpayer.[62] The key question under section 162(c)(2) is what the term "illegal payment" means. The regulations[63] provide no practical guidance, and there seems to be no other interpretive authority.[64]

Section 162(c)(2) will not likely carry much weight with respect to environmental issues. The cases arising under it concentrate on payments that in and of themselves violate the law, such as "payola"[65] and payments that fall below legal minimums.[66] Given the broad wording of the statute, one might expect a broader application of "other illegal payment" to sweep in payments that arise in connection with an illegal act. Unfortunately, interpretations of the provision do not support such an application.

The weakness of the provision is clear. It covers only payments that are in themselves proscribed, rather than payments arising in connection with illegal acts. Thus, if a manufacturer pays a trucking company to haul hazardous waste illegally, section 162(c)(2) cannot apply because the typical statute is geared toward the immediate act (dumping wastes), not the payment of money to induce bad acts. To solve this oversight, Congress could easily expand section 162(c)(2) to cover payment in consideration for illegal acts.

B. Tax Treatment of Raw Materials and Feedstocks

1. Percentage Depletion

Although the terms "toxic substances" and "hazardous waste" conjure up thoughts of synthetic chemicals, many of the most heavily used and most toxic substances are naturally occurring minerals,

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[61] *Id.*

[62] *Id.* § 162(c)(2). Again, the burden of proof is on the IRS. *Id.*

[63] Treas. Reg. § 1.162-18 (1988).

[64] The debate so far has concentrated on whether price rebates or kickbacks shown as increased costs of goods sold are to be disallowed as illegal payments. *See* Max Sobel Wholesale Liquors v. Commissioner, 630 F.2d 670 (9th Cir. 1980); Rev. Rul. 82-149, 1982-2 C.B. 56.

[65] Coed Records, Inc. v. Commissioner, 47 Tax Ct. Rep. (CCH) 422 (1967) (prior law).

[66] Atzinger-Whitehouse Dairy, Inc. v. Commissioner, 36 Tax Ct. Rep. (CCH) 173 (1961).

such as asbestos, that have been put to commercial or industrial use. Moreover, the synthetic chemicals themselves are derivatives of natural materials, especially petroleum. Because mineral extraction and petroleum production are the root of most hazardous wastes, the percentage depletion allowance for investments in natural resources[67] relates directly to waste reduction policy.

The percentage depletion allowance alters the preference between extraction and use of virgin materials as compared to the recycling of used materials. Because the extraction, refining, and processing of virgin materials typically generates greater amounts of waste materials than recycling of used materials, the percentage depletion allowance again becomes relevant to waste management and reduction.

The percentage depletion allowance emerges from an elaborate network of rules relating to the depletion of natural resources. Despite the complexities, the system reduces to two fundamental systems of depletion, namely cost depletion and percentage depletion.

Cost depletion[68] is designed to recover the taxpayer's interest in an exhaustible natural resource at the rate at which it is being extracted. There are virtually no distinctions among the types of resources being exploited. The depletion of timber is complicated, but only by the obvious fact that trees propagate and grow. Because of such growth, the taxpayer's depletable investment in each unit of standing timber tends to diminish with the passage of time. Aside from timber, however, the cost depletion system is essentially straightforward and has engendered little audit controversy or legislative concern.

By contrast, percentage depletion tends to be exasperatingly complex because of Congress's obvious ambivalence toward the system.[69] Percentage depletion simply means a deduction based on a percentage of the sale price. The sales may bar actual sales or constructive sales. Vertically integrated resource companies use constructive sales prices, as when a copper company mines the ore, processes it, and makes a final product like copper wire.[70]

For example, domestic oil and gas extracted and sold by a so-called independent producer is depletable at a rate of fifteen per-

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[67] I.R.C. §§ 611–613A.

[68] *Id.* §§ 611–612. To illustrate cost depletion, if a taxpayer paid $10,000 for a mine containing 100,000 tons of coal, the taxpayer could claim a ten cent deduction ($10,000 divided by 100,000) for each ton of coal extracted and sold. *See id.*

[69] *Compare, e.g., id.* §§ 611–613 *with id.* §§ 57(a)(1), 291(a)(2), 613A, 613(b).

[70] *Id.* §§ 613, 613A.

cent.[71] To illustrate, assume a small oil and gas producer pays $10,000 for an estate that turns out to contain 10,000 barrels of oil. In the first year, the producer sells 1000 barrels at $10 per barrel. She can claim a deduction of $1500 (.15 x $10 x 1000). In the second year, she also sells 1000 barrels, but the price jumps to $20 per barrel. For the second year, the percentage depletion deduction rises to $3000.

The key controversy about percentage depletion is that it is unrelated to the taxpayer's investment in her interest in the resource. If the taxpayer in the example had invested only $1.00 in the entire history of the natural resource property, she could still claim a $3,000 deduction for the second year. By contrast, the cost depletion system would allow the oil and gas operator only a $1.00 depletion deduction over the life of the well for a $1.00 capital investment. Taxpayers must elect cost or percentage depletion on a property-by-property basis, depending on which procedure yields the greater tax deduction for the particular year.[72]

Congress has gradually pared back the percentage depletion system over the years in ways that need not be addressed here in detail, especially with respect to the oil and gas industry. Nevertheless, the fundamental potential windfall of being able to claim a deduction for exhausting natural resources in excess of one's investment in the resource remains.

From an environmental perspective, the deduction yields some truly perverse results because of the way the Code distributes the "windfall." In the case of hard-rock minerals in particular, different minerals qualify for deduction at dramatically different rates. The higher the rate, the better the taxpayer's vantage.

The average percentage depletion rate is 12.1 percent.[73] The highest rate, twenty-two percent, is granted to asbestos, uranium, lead, and mercury! Each of these minerals is notorious for its capacity to damage the human body, the environment, or both.[74] Moreover, EPA has taken specific steps to reduce the use of these substances and limit human exposure.[75] No legislative history underlies this curious

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[71] *Id.* § 613A.

[72] Treas. Reg. § 1.169-1(a)(1) (as amended in 1972).

[73] Based on averaging the seven different rates set forth in I.R.C. § 613(b)(1).

[74] Ford, *Who Will Compensate the Victims of Asbestos Related Diseases? Manville's Chapter 11 Fuels the Fire*, 14 ENVTL. L. 465, 466–68 (1984); *EPA Sets Standards for Radiation from Active Uranium Mills*, TRIAL, Dec. 1983, at 13–14; *Lead: Assessing Its Health Hazards*, 2 HEALTH & ENVTL. DIG. 1 (1988); N. HUDDLE & M. REICH, ISLAND OF DREAMS: ENVIRONMENTAL CRISIS IN JAPAN 102–32 (1975) (telling the story of mercury poisoning in Minamata).

[75] All the minerals except lead are designated as hazardous air pollutants under the Clean

favoritism for such harmful materials in our tax laws. One can fairly ask whether these substances should not be reduced to the lowest rate or denied the percentage depletion deduction altogether, as in the cases of integrated oil and gas producers and transferees of proven oil and gas properties.[76]

By disproportionately encouraging the extraction of minerals with known significant toxic characteristics, present tax laws clash with sound environmental policies. The preferential treatment of these minerals deserves review on the reasonable expectation that they would be mined less eagerly in favor of less destructive alternatives if their percentage depletion rates were reduced or eliminated. In addition, serious consideration should be given to determining how to balance appropriately the extraction of virgin resources as opposed to recycling used resources. The present structure of the Code does nothing to encourage recycling.[77]

2. Feedstock Taxes and Superfund

This section gives a thumbnail sketch of the complex set of taxes on forty-nine chemical and petroleum products that provides the major revenue source of the Superfund to clean up old and abandoned hazardous waste sites.[78] Congress selected these petroleum and chemical substances as the original source materials, or feedstocks, for most processes and products that generate hazardous waste. The taxes, found in sections 4611, 4661, and, after 1986, 4671 of the Code, were designed to raise $1.38 billion for the fiscal period 1980–85. The amount was to be supplemented by $220 million from general revenues, for a total fund of $1.6 billion.[79] Actual revenues were only $863 million by the end of 1984 because of declining production of the taxed feedstocks.[80] Meanwhile, the estimates of costs to clean up hazardous waste sites continued to climb. By 1985, the General

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Air Act, meaning that EPA has concluded that they are expected to increase mortality, serious irreversible illness, or incapacitating reversible illness. 42 U.S.C. § 7412(a)(1); 40 C.F.R. § 61.01(a). Lead is regulated as an ambient air pollutant, again based on health effects.

[76] I.R.C. § 613A(a), (c)(9) (1986).

[77] The Office of Technology Assessment is considering this issue. The results should be interesting.

[78] Superfund is a creation of Title II of CERCLA, 42 U.S.C. § 9601 (1982) as amended by SARA, 42 U.S.C. § 9601 (Supp. IV 1986), codified in various sections of the Internal Revenue Code. The expenditure of the Superfund monies is limited to hazardous waste response under § 111 of CERCLA. I.R.C. § 9507(c) (1986).

[79] H.R. REP. No. 962, 99th Cong., 2d Sess. 317–18, *reprinted in* 1986 U.S. CODE CONG. & ADMIN. NEWS 3410–11.

[80] Viard, *Tax Issues Raised by Superfund Reauthorization*, 28 TAX NOTES 1026, 1026 (1985).

Accounting Office estimated total costs to be in the range of $39 billion but possibly as high as $100 billion.[81] In response, Congress in 1986 increased the five-year revenue goal to $8.5 billion.[82]

The concept behind the feedstock taxes is to force the industries that presumably benefited in the past from the cheap and inadequate waste disposal practices that created the waste sites to shoulder the current cost of cleaning up those wastes. Unfortunately, the relationship between the particular tax and the environmental externalities from the particular material is acknowledged to be crude.[83] Although the debate in the mid-1980s on reauthorization of Superfund included discussion about this relationship, Congress only considered, but ultimately did not adopt, a direct tax on the hazardous wastes themselves.[84]

C. Tax Treatment of Waste Treatment and Disposal

In two specific instances, Congress has modified the Code to adapt to environmental concerns. One involves the rapid amortization of certain pollution control facilities.[85] The other involves tax-exempt

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[81] *Id.*

[82] ENVIRONMENTAL LAW REPORTER, SUPERFUND DESKBOOK 51 (1986). The shares of expected revenue from various sources break down as follows (in billions of dollars):

Petroleum tax	$2.759
Feedstock chemicals tax	$1.365
Imported chemicals tax	$0.057
Environmental (general industry) tax	$2.522
General revenues	$1.250

Superfund originally taxed crude oil at 0.79 cents per barrel. CERCLA, 26 U.S.C. § 4611 (1982). The 1986 amendments increased this tax to 8.2 cents per barrel for domestic crude, and 11.7 cents for imported crude. I.R.C. § 4611(c). Twelve primary petrochemicals and thirty inorganic chemicals are taxed at rates varying between twenty-two cents per ton for potassium hydroxide and $10.13 per ton for xylene. *Id.* § 4661(b).

[83] Viard, *supra* note 80, at 1028.

[84] *Id.* at 1029. Whatever their benefits from an economic incentive viewpoint, waste-end taxes tend to be an uncertain source of revenue because taxpayers will seek ways to reduce the amount of hazardous waste they generate. This may be environmentally constructive, but the revenue deterioration is not appropriate for a major tax designed to raise billions of dollars. There is also substantial concern that some firms will evade a waste-end tax by surreptitious disposal of wastes—so-called midnight dumping.

Congress heard proposals for other sources of revenue, including a much larger share for general revenues and a broad-based tax on industrial generators of hazardous waste. Although a broad-based tax on waste generators was not adopted, about one-quarter of the revenues for the five-year period 1986–90 will come from a new "environmental tax" related to corporate income taxes. *See supra* note 82.

[85] I.R.C. § 169.

financing of waste treatment facilities.[86] The former topic is fairly controversial. The latter has attracted little attention.

1. Amortization of Pollution Control Facilities

Section 169 of the Code allows certified pollution control facilities to be amortized over a period of sixty months, beginning with the month following acquisition or completion, or with the next taxable year. The provision is elective, and is designed to induce private industry to commit funds for anti-pollution facilities that "generally do not result in any increase in the profitability of a plant."[87]

In order to qualify for this rapid write-off, the facility has to be certified by federal and state authorities as conforming with prescribed standards for the prevention, abatement, or control of air or water pollution.[88] The facility must not significantly change the output capacity or useful life of the taxpayer's plant, nor may it reduce the plant's operating costs.[89] The facility's costs must also not be repaid by the recovery of wastes,[90] and, if the facility has a useful life of over fifteen years, the portion of the investment that can be written off under section 169 is reduced proportionately.[91]

For example, if the facility's useful life were thirty years, one-half of its cost could be written off in five years (sixty months) and the rest could be written off over the normal useful life. The election to amortize the improvement over a sixty-month period is terminable at will.[92] Section 169 does not apply if the facility might otherwise have been installed, even though it is certified as useful for combatting pollution and does not add significant value to the plant.[93]

What Congress gave in section 169 it has partly taken back in various ways. Specifically, section 291(a)(5) provides that, in the case of a corporation, the amortizable basis of pollution control facilities under section 169 must be reduced by twenty percent, say from $1

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[86] I.R.C. §§ 103, 142(a)(5), (6), (10).

[87] S. REP. NO. 552, 91st Cong., 1st Sess., *reprinted in* 1969-3 C.B. 423, 580. *See* McDaniel & Kaplinsky, *The Use of the Federal Income Tax System to Combat Air and Water Pollution: A Case Study in Tax Expenditures*, 12 B.C. INDUS. & COM. L. REV. 351 (1971); Reese, *The Tax Implications of Pollution Control Investments After ERTA and TEFRA*, 31 OIL & GAS TAX Q. 338, 376 (1982).

[88] Treas. Reg. § 1.169-2(a) (as amended in 1970).

[89] I.R.C. § 169(d)(1)(c) (1986); Treas. Reg. § 1.169-2(b)(2)(ii), 2(d).

[90] I.R.C. § 169(e) (1986). That is, if the facility recovers a useful material (for example, silver from photographic coating wastes), the value of the recovered material cannot equal or exceed the annualized cost of the facility itself.

[91] *Id.* § 169(f)(2).

[92] *Id.* § 169(c).

[93] *See* Treas. Reg. § 1.169-2(d).

million to $800,000. Section 291(c)(1) in turn, however, subjects that twenty percent to depreciation under section 168. This juxtaposition evidences a surprising ambivalence on the part of Congress, and adds a nuisance to already elaborate bookkeeping requirements. In general, Congress designed section 291 to limit certain exceptional tax benefit claims by corporations. This populist limitation merely invites taxpayers to change the form in which business is conducted, which is clearly an undesirable outcome.[94]

In addition, the alternative minimum tax[95] applies to the accelerated amortization of such pollution control facilities. The base on which the tax falls, if at all, is the amount actually claimed under section 169 minus the significantly smaller amount that the taxpayer would have been entitled to had he or she written off the asset under section 168(g).[96] That tax applies at a twenty-one percent rate for individuals and twenty percent for corporations.[97]

On one hand, section 169 provides a healthy incentive to install facilities that will not have commercial value because five-year amortization is rapid compared to the usual seven to twenty-seven and a half year depreciation system that would otherwise apply.[98] On the other hand, a well-sheltered taxpayer might find the possibility of an alternative minimum tax an undue burden. In addition, it is not clear that section 169 is available if one party leases it to another.[99] The Internal Revenue Service (IRS) or Congress should clarify this last question.

Section 169 is subject to criticism on several grounds: it merely softens the blow of doing what regulators require anyway, but does not help taxpayers running tax losses; it only reaches some pollution; and, it fails to encourage use of less polluting fuels. The most serious criticism of section 169 is its denial in cases where it can add value or profit.[100] Congress premised that denial on the existence of the now repealed investment tax credit (ITC), which made section 169 inferior to the combination of cost recovery under section 168 plus the former ITC.[101]

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[94] For example, using a partnership consisting of individuals acting as lessors to avoid I.R.C. § 291(c).

[95] I.R.C. § 55 (1986).

[96] *Id.* § 56(a)(5).

[97] *Id.* § 55(b)(1).

[98] *See id.* § 168(e).

[99] Reese, *supra* note 87, at 376–77.

[100] Millett, *Pollution and The Federal Revenue Code*, 8 WAKE FOREST L. REV. 535, 549 (1972).

[101] *See generally* Reese, *supra* note 87; Moore & Streuling, *Pollution Control Devices: Rapid Amortization Versus the Investment Credit*, 52 TAXES 25 (1974).

Since passage of the 1986 Code, pollution control facilities have generally been favored under section 169 because recovery periods[102] are substantially longer for virtually all classes of tangible property,[103] making sixty-month amortization all the more appealing. For example, much public utility property such as coal-fired power plants, moved from being fifteen-year property[104] to being twenty-year property.[105] Also, Congress eliminated the ITC, thereby reducing the prior ten percent subsidy for acquiring industrial hardware, and further widening the disparity between pollution control equipment and other hardware.[106]

An increasingly important restraint on section 169 arises from Congress's decision to apply it only to plants that were in operation before January 1, 1976. Because of this cutoff, the growing population of new plants that have come onstream after 1975 gains no benefit from section 169. As a result, section 169 fails to create an incentive to build new plants that cost more but provide better control of toxic wastes for that increased cost.[107]

Commentators have criticized the provision for its oversimplified view of the competitive advantages involved.[108] Pollution control agencies already account for the extra expense of retrofitting equipment in old plants, relative to comparable equipment in new plants, when they set pollution control standards, allow construction permits, and determine who will have enforcement actions brought against them.[109] Even if an old plant must spend more money to

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[102] *See* I.R.C. § 167 (1986).

[103] *See id.* § 168.

[104] *Id.* § 168(c)(2)(E) (replaced in 1986).

[105] *Id.* § 168(e)(1); Treas. Reg. § 1.167(a)-11, class 49.14 (1980).

[106] Tax Reform Act of 1986, Pub. L. No. 99-514, 100 Stat. 2085 (1986).

[107] The January 1, 1976 cutoff was based on the Senate's view that the cost of upgrading old facilities is greater than the cost of redesigning new ones. *See* Reese, *supra* note 87, at 362–74; S. REP. No. 552, 91st Cong., 1st Sess. 249 (1969).

[108] *See, e.g.*, Givelber & Schaffer, *Section 169 of the Internal Revenue Code: An Income Tax Subsidy for the Control of Pollution*, 14 ARIZ. L. REV. 65 (1972).

[109] The Clean Water Act, for example, clearly states different technology criteria and cost-consideration criteria for existing sources compared to new sources. *Compare* 33 U.S.C.A. § 1311(b)(1)(A), (b)(2)(A) (1983 & West Supp. 1988) *with* 33 U.S.C.A. § 1316. For a general discussion of technology and cost considerations in setting discharge limits under the Clean Water Act, see W. RODGERS, ENVIRONMENTAL LAW: AIR AND WATER § 4.29 (1986). The adage that old plants spend more money complying with such pollution laws than new plants is true, however, only when comparing plants within the same industry. Section 169 cannot differentiate between industries with high pollution control costs and competing industries that may be able to comply more cheaply. For example, it would favor an old steel mill over a new, less polluting, plastics plant even though both make parts for automobiles.

control pollution than would a new plant, the government should reduce the subsidy to the new plant proportionately instead of refusing to subsidize it at all. To the extent these subsidies are intended to alleviate the hardships that accrue to investors in old plants when the legislature enacts tougher pollution control laws, such hardships fall on more recent plants as well as much older ones. In addition, section 169 has the inherent problem of propelling firms in the direction of using end-of-pipe methods to control pollution from less efficient facilities rather than making process changes to reduce raw waste generation. The firm that changes fuels or modifies processes of production to minimize pollution receives no special subsidy even though such changes may be more efficient at reducing pollution than buying new waste treatment equipment.

In addition to providing no incentive to build new plants with better waste controls, section 169 is arguably overbroad in that the EPA interprets it to include equipment permissively installed as well as equipment required to meet legal standards.[110] While the EPA view seems sound, it may be subject to abuse by the states. Section 169(d)(2)(A) defines a certified pollution control facility as a facility that a state certifying authority declares to be installed or acquired consistent with that state's program for pollution control.[111] It does not require states to have mandated the investment through regulation or enforcement. Consequently, section 169(d)(2)(A) invites states to encourage industrial relocation by having broad, permissive programs that allow maximum exploitation of section 169's benefits.

Congress should explicitly amend the Code to conform to the EPA view in order to encourage voluntary control of pollution beyond legal minimums. The tax regulations will prevent taxpayer abuse of the system, so the only danger to a broad allowance for permissively installed pollution control may be a slight loss of revenue. Although section 169 is not pegged to the extent of reduction of pollution, but to capital invested,[112] the backstop of action consistent with government programs should be enough.

Another objection to section 169 asserts that it is technically regressive in that it gives a greater stimulus to taxpayers in higher

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[110] *Compare* Pollution Control Facilities: Guidelines for Certification, 36 Fed. Reg. 19,132 (1971) *with* H.R. REP. No. 413, 91st Cong., 1st Sess. 197 (1969).

[111] I.R.C. § 169(d)(2)(A).

[112] *Id.* § 169(a).

tax brackets, and fails altogether to stimulate non-taxpaying operators such as municipalities or companies with operating loss carryovers.[113] Although these entities may desperately need financial subsidies, the section gives them no help. Congress should consider supplementing section 169 with a refundable credit or a direct subsidy for financially needy owners and operators.[114]

Section 169 fails to get to the heart of the matter of reducing toxic wastes. It encourages end-of-pipe equipment over process changes and new materials, and it gives no help to the firms that need it most: those running tax losses. It also creates no incentive for post-1975 plants to operate more cleanly. Even if some states could use section 169 to promote permissive investment in extra pollution control with a federal subsidy, for most companies, section 169 merely subsidizes legally mandated pollution control investments. Overall, section 169 typifies the haphazard federal approach toward coordinating tax and environmental policies and highlights the need for much more thoughtful and systematic integration of taxation with environmental quality goals.

2. Tax-exempt Financing

Private activity bonds, such as corporate bonds, produce taxable interest.[115] Bonds issued to finance pollution control facilities in the hands of private owners are, therefore, *prima facie* incapable of producing tax-exempt interest. Section 141(d), however, exempts such bonds if they are "qualified bonds."[116] Qualified bonds, in turn, include "exempt facility bonds."[117] Exempt facility bonds include those for sewage and solid waste disposal facilities and hazardous waste disposal facilities.[118] Except for the three types of facilities just mentioned, an exempt facility must serve regularly for general public use.[119]

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[113] *See* I.R.C. § 172 (1986).

[114] *See generally* Reed, *Economic Incentives for Pollution Abatement: Applying Theory to Practice*, 12 ARIZ. L. REV. 511 (1970) (preference for effluent charge system).

[115] I.R.C. § 103(b) (1986).

[116] *Id.* § 141(d).

[117] *Id.* § 141(d)(1)(A).

[118] *Id.* § 142(a)(5), (6), (10). It should be noted that the 1986 Tax Reform Act substantially rewrote the Code's provisions on tax exempt bonds. The provisions of interest to us here, however, were modified only slightly, so regulations and precedents established under the pre-1986 Code remain valid.

[119] Treas. Reg. § 1.103-8(a)(2) (as amended in 1983).

The Treasury regulations carefully and elaborately define facilities that qualify for the exempt facility exemption.[120] The regulations define sewage disposal facilities and solid waste disposal facilities as property used for the collection, storage, treatment, utilization, processing, or final disposal of sewage or solid waste.[121] Pursuant to these regulations, a facility that recycles solid wastes can qualify as a solid waste disposal facility if solid waste accounts for at least sixty-five percent of the waste handled.[122] Even if this type of facility "operates at a profit," it can still qualify if the solid waste it treats or disposes is useless or unwanted material that has no market value and that no one is willing to purchase.[123]

In addition to sewage and solid waste facilities, the regulations define air and water pollution control facilities as serving the public good and thus fulfilling the public use requisite.[124] A property is considered an air or water pollution control facility if it is used wholly or partly to abate pollution by removing, altering, disposing, or storing the contaminant, and if the expenditure would not have been made except for the purpose of pollution control.[125] To allow for depreciation, the expenditure must also satisfy the requirements of section 167, namely, that the property have a limited physical life and be held for use in a trade or business or for the production of income.[126] In addition, a federal, state, or local agency must certify that the facility controls air or water pollution or that it meets federal, state, and local standards to control air and water pollution.[127]

It does not matter if the facility also engages in reprocessing the waste, generation of energy, or other activities ancillary to waste

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[120] *Id.* § 1.103-8(f), (g).

[121] *Id.* § 1.103-8(f)(2)(i), (ii).

[122] *Id.* § 1.103-8(f)(2)(ii)(*c*).

[123] *Id.* § 1.103-8(f)(2)(ii)(*b*). Since this regulation was written, the definition of solid waste has been amended and recodified at 42 U.S.C. § 6903(27) (1982). The amended definition of solid waste is somewhat broader than the original definition.

[124] Treas. Reg. § 1.103-8(g)(1) (as amended in 1983).

[125] *Id.* § 1.103-8(g)(2)(i)(*b*), (ii), (iii).

[126] *Id.* § 1.103-8(g)(2)(i)(*a*) (citing 26 U.S.C. § 167(a) (1982)).

[127] *Id.* § 1.103-8(g)(2)(i)(*a*), (*b*). Expenditures for property are sufficient to fulfill the requirements of subdivisions (iii) and (iv) as long as the property will be used for the control of pollution, even if it serves functions other than just the control of pollution. If, however, a significant purpose other than the control of pollution will be served, only the expenditures spent for pollution control will satisfy the test of this subdivision. A significant purpose is defined as one that produces "an increase in production or capacity, or in the material extension of the useful life of a manufacturing or production facility or part thereof." *Id.* § 1.103-8(g)(2)(v).

disposal. Under the temporary Treasury rules, however, the portion of the cost of the solid waste disposal facility that is actually used in the disposal process is allocable to solid waste disposal for section 141(d) purposes.[128]

The foregoing regulations contain no surprises. They basically allow a subsidy by removing a tax on income from capital for establishing two forms of waste removal facilities. This innocuous provision does not seem to merit much debate. Its effectiveness, however, is questionable. Many waste removal facilities will probably be built anyway, and the subsidy may not be sufficient to stimulate increased construction of such facilities where they are needed. It should be noted that the types of wastes contemplated by section 141(d) are much more extensive than the toxic wastes that are the focus of this Article, and include such items as household waste and discarded newspapers.

D. Tax Treatment of Post-disposal Liabilities

The federal income tax implications of liabilities that arise after disposal of toxic wastes have assumed major significance for both revenue and environmental policies. Parties responsible for existing waste site cleanup under Superfund face multi-billion dollar liabilities, prompting increased attention of state governments, banks, insurance companies, and real estate developers, as well as industrial concerns, to the financial arrangements for potential waste-related liabilities. Although the tax implications of such liabilities raise perhaps the most important policy questions in this Article, analysis of these questions must inevitably focus on specific tax accounting questions.

This section begins with a survey of tax accounting concepts, and then moves to the implication of denying taxpayers deductions for setting aside money to take care of liabilities they will face in the future. As will be seen, the one bright spot for tax policy is the special treatment of nuclear decommissioning costs. The final elements of this section concern the tax incentives for forming undercapitalized subsidiaries to carry on environmentally risky activities and the possibility of using casualty insurance as an alternative to reserves for future liabilities.

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[128] Temp. Treas. Reg. § 17.1(a) (1975).

1. Background on Accrual Method Deductions and Reserves for Future Expenses

The cost of cleanup and compensation for injuries attributed to hazardous waste has generated more discussion and controversy in the last ten years than the regulation of the wastes themselves.[129] In RCRA,[130] Congress foresaw the problem of contingent future liabilities for current waste disposal practices, and enacted a requirement for bonding or insurance for liabilities and clean-up costs occurring *after* the closure of a waste disposal site.[131] By 1980, Congress had become aware of problems throughout the country with old, often abandoned, hazardous waste sites, and passed the Superfund law to marshal national resources to clean them up.[132]

Superfund has had its most profound impact on the actions of parties who are potentially responsible for clean-up costs at particular sites.[133] The potentially responsible parties, especially the industrial generators of toxic wastes, now seek strategies and legal arrangements that will reduce, absolve, or shift their liability. In many cases, however, such avoidance strategies are impossible or impractical. The potentially responsible parties therefore also seek ways to accumulate capital sufficient to cover hazardous waste liabilities that they cannot avoid.

The fundamental issue that arises with respect to post-disposal liability is whether and to what extent a taxpayer should be allowed to claim a tax deduction for expenditures that will be paid out in some future year.[134] The issue of deductibility of future expenses relates primarily to taxpayers on the accrual method, the system used by most major business taxpayers and manufacturers.[135]

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[129] Futrell, *Hazardous Wastes and Toxic Substances: Lessons from Superfund, RCRA, and other Environmental Laws*, 24 HOUS. L. REV. 125 (1987); *see also* Lucero, *Responses to J. William Futrell*, 24 HOUS. L. REV. 143, 148 (1987); *Special Issue: Managing Liability from Hazardous Waste*, 25 HOUS. L. REV. 715–977 (1988).

[130] 42 U.S.C. §§ 6901–6987 (1982 & Supp. IV 1986).

[131] 42 U.S.C. § 6924(a)(6), (t)(1) (Supp. IV 1986), implemented by rules at 40 C.F.R. §§ 264.140–264.151 (1987).

[132] CERCLA, 42 U.S.C. §§ 9601–9659 (1982 & Supp. IV 1986).

[133] The law enumerates four classes of people legally liable for cleanup: current owners and operators of the site; owners and operators at the time of waste disposal; generators of the wastes at the site; and those who transported the wastes to the site. 42 U.S.C. § 9607(a). Collectively, they are commonly known as the "potentially responsible parties."

[134] The following materials deal with an arcane topic of tax accounting. Every attempt is made to simplify the concepts, many of which may appear baffling to the uninitiated reader.

[135] I.R.C. § 446(c)(2) (1982).

Under the accrual method, a taxpayer reports income when all the events fixing the right to payment have taken place (for example, when an order of goods is shipped out) regardless of when actual payment is due or received.[136] Likewise, a deduction is available when all the events fixing the duty to make a payment in some future year have taken place.[137] For example, if removing the overburden above a mineral deposit to be stripmined triggers a duty to pay money in order to rehabilitate the land, a deduction may be available when the overburden has been removed even though the area may not be reclaimed until well in the future.[138]

Under the cash method of accounting, by contrast, taxpayers do not report income until it is actually received, and they cannot claim deductions until they are actually paid. To the extent that the payments produce values that last into future years, however, they must be proportionately "capitalized" (suspended) and written off in such future years.[139]

The preceding summary of the accrual and cash methods describes financial accounting[140] more accurately than it does tax accounting. Over the years, tax accounting has generally drifted away from the fairly pure world of financial accounting, usually in favor of the IRS and against the accrual method taxpayer. In other words, the tendency has been to put accrual method taxpayers onto the cash method if doing so raises taxes.

The government has used three major tools to shift the balance in its favor. First, section 446(b) of the Code authorizes the Commissioner of Internal Revenue to impose his or her own method of accounting on the taxpayer if the taxpayer's method is found to distort income or to fail to reflect income accurately.[141] The Commissioner has used this weapon with great success to force prepaid receipts to be taxed on receipt, thereby effectively putting accrual method taxpayers on the cash method.[142] Second, the government has applied the so-called claim-of-right doctrine to tax accrual method taxpayers on income they have earned and exercise dominion

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[136] Spring City Foundry Co. v. Commissioner, 292 U.S. 182, 184–85 (1934).

[137] Treas. Reg. § 1.446-1(c)(ii) (1988).

[138] Ohio River Collieries Co. v. Commissioner, 77 Tax Ct. Rep. (CCH) 1369 (1981).

[139] *See* I.R.C. § 263 (1986).

[140] The term refers to accounting practice applied by CPAs reporting the annual financial results of enterprises, for the benefit of creditors and owners of the enterprise.

[141] Such actions by the Commissioner of Internal Revenue cannot be reversed unless they constitute an abuse of discretion, which is a difficult standard for taxpayers to meet. *See* Lucas v. American Code Co., 280 U.S. 445, 449 (1930), *rev'g* 30 F.2d 222 (2d Cir. 1929).

[142] *See* B. BITTKER, FEDERAL TAXATION OF INCOME, ESTATES AND GIFTS § 105.1.6 (1981).

over, even though the earnings are forfeitable and hence not formally accruable.[143] Third, the economic performance requirement embodied in section 461(h) of the Code[144] denies deductions for future disbursements until the taxpayer receives services, property, or use of property for which the taxpayer has contracted. This triad of forces has made tax commentators cynical about Congress's willingness to distort coherent accounting principles in order to accelerate the flow of revenue[145] and makes accrual method taxpayers understandably feisty about further incursions on their tax accounting territory.

The tax treatment of general reserve accounting shows how Congress has disrupted traditional accounting practices. General reserve accounting is a method that accrual method taxpayers have traditionally used to establish reserves to cover future expenses. The method is best described by example:[146]

> Mr. Scheussler sells home furnaces. The price of a furnace is $550. In connection with selling a furnace, Mr. Scheussler promises to turn off the furnace in the spring and to clean and start it each fall for five years. He estimates the cost of doing so at $10 per year, that is, $50 over the five-year period. Accordingly, in the year of the sale, he reports $550 of gross income on the sale of each furnace, but offsets that figure by $50, his "reserve" for future expenditures in connection with each furnace. Each year in which he actually services the furnace, he will add $10 to income, but will subtract the actual cost of servicing the furnace ($10.50 in the first year, $7.50 in the second year, etc.).

As the example shows, the reserve method reflects his income accurately in that it appropriately reduces what would otherwise be inflated income ($550) in the first year by the anticipated future costs of the contract. Accountants endorse the reserve method because of its levelling effect, which creates a steadier pattern of income (or loss) and better matches the timing of income and deductions. For example, if Mr. Scheussler simply reported $550 in year one and a $10 loss in years two through six, the outcome would be silly because the transactional event is the sale of a furnace at a net gain of $500 (less its cost to him), not a large profit in one year and a series of losses in succeeding years.

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[143] *See* North Am. Oil Consol. v. Burnet, 286 U.S. 417, 424 (1932).

[144] Effective in 1985 and later years.

[145] *See, e.g.*, Malman, *Treatment of Prepaid Income–Clear Reflection of Income or Muddied Waters*, 37 TAX L. REV. 103 (1981); Cunningham, *A Theoretical Analysis of the Tax Treatment of Future Costs*, 40 TAX L. REV. 577 (1985).

[146] *See* Schuessler v. Commissioner, 230 F.2d 722 (5th Cir. 1956).

Although general reserve accounting is accurate, taxpayers can manipulate the method by shrewdly creating liabilities that will not call for payment until far in the future.[147] The introduction of section 461(h) in 1984 therefore eliminated the general use of reserves for future expenses. As a result, the only way for an accrual method taxpayer to deduct liabilities (whether or not denominated reserves) for future expenditures is to undertake the activity that produces the liability (in our example, clean and fire up the furnace) or take advantage of some *specific* reserve accounting provision that expressly allows such a deduction despite the general restriction imposed by section 461(h).[148]

2. Environmental Policy Implications of Lack of General Reserve Accounting and the Economic Performance Limitation

The unavailability of general reserve accounting produces conflicting considerations for the taxpayer. To illustrate the issues, a hypothetical taxpayer may be useful. Assume that the taxpayer is an incorporated junkyard that uses the accrual method. The company is aware that its activities, such as piling up old batteries and allowing associated toxins to accumulate, will almost surely result in eventual contamination of the local groundwater, with consequent state intervention, possible fines, and a need to clean up the toxic wastes it has collected.

Case 1:

Taxpayers who are on the accrual method in theory qualify for a deduction if they can show that their actions either have resulted in a fixed liability to correct their malfeasance or have rendered the payment schedule so clear that a current deduction is permissible.[149] The pure accrual method thus encourages the junkyard to solidify its liability so that it can report the deduction immediately. Such an incentive could induce the junkyard operator to engage in destruc-

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[147] *See, e.g.*, Mooney Aircraft, Inc. v. United States, 420 F.2d 400, 409–10 (5th Cir. 1969) (current deductibility of "bonds" due 20 years in the future successfully challenged under § 446(b) power).

[148] Later in the Article, we discuss several such specific Code provisions that have special significance from an enviromnental perspective. *See infra* notes 158–67 and accompanying text.

[149] This is the result under traditional, or financial, accrual accounting, shorn of the economic performance requirement of I.R.C. § 461(h).

tive behavior, reasoning that "it's deductible" although not payable until well into the future.[150]

Solidifying the deduction, however, may be taken as an admission of guilt, assuming the taxpayer's income tax records are accessible. For publicly traded companies, the solidified deductions may need to be reported in securities filings.[151] On one hand, the liability to correct the behavior may be largely avoided if it is so far in the future as to be trivialized by discounting it to its present value.[152] On the other hand, if the taxpayer is a corporation, liquidating the corporation will generally trigger a tax liability that will reverse the prior deduction.[153]

Claiming the deduction does not assure that the taxpayer will fund the liability by setting aside money to make the indicated future payment. Should the issue be the subject of an IRS audit, it is conceivable that the taxpayer and the IRS could enter into a so-called closing agreement[154] under which the deduction would be allowed if cash payments were made that corresponded to the deduction. That speculation would not affect pre-audit behavior.

Case 2:

As a result of section 461(h) of the Code, accrual method taxpayers cannot deduct the liabilities for correcting their malfeasance until the correction is made. The implication for our junkyard is that, unless and until the cleanup is undertaken, it cannot report a deduction. Thus, the company has no incentive to save for clean-up expenses or to pay insurance premiums to generate a cash reserve. Once cleanup becomes physically feasible, an incentive arises to clean up because doing so will produce a current tax deduction. If the property is so far gone that the correction would be deemed a

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[150] In a high interest rate environment, however, the discounted future cost of remedying the malfeasance could be lower than the tax benefit of the current legislation. If the taxpayer were a corporation paying the general top rate of 34% of taxable income, the value of the deduction would be 34% of the reported amount. For example, a $1,000 accrued deduction reduces current year taxes by $340. The further into the future the actual disbursement is pushed, the lower its real present cost. The higher the interest rate applied to discount a future disbursement, the lower its present value cost will be.

[151] *See generally Resource Materials: Fraud, Inside Information, and Fiduciary Duty under Rule 10b-5*, A.L.I. (1976).

[152] *See supra* note 150.

[153] *See* Hillsboro Nat'l Bank v. Commissioner (United States v. Bliss Dairy, Inc.), 460 U.S. 370 (1983). This would not be true if it were liquidated into a parent corporation under I.R.C. § 332 (1986).

[154] *See* I.R.C. § 7121 (1986).

rehabilitation, however, that expense would have to be capitalized.[155] The Code enhances the incentive because the taxpayer may be able to borrow money, with associated interest expense deductions, to perform the job.[156]

Case 3:

The facts are the same as Case 2, but the taxpayer is on the cash method. The same results occur as in Case 2 above because the Code allows no deduction until the year of payment, or later if and to the extent performance occurs in a later year.[157] For example, assume a corporate taxpayer on the cash method contracted with an outside company to clean up its toxic wastes at a price of $1 million. The contract called for paying the $1 million in 1990, but for doing half the cleanup in 1990, and half in 1991. The corporation may deduct only $500,000 in 1990; the balance may not be deducted until 1991.

Case 4:

Suppose the taxpayer is subjected to fines or penalties for its violations. The result is no deduction.[158] Denial of a tax benefit is appropriate because allowing a deduction would weaken the sting of the fines or penalties.

Under present tax law, environmentally destructive behavior that creates a clean-up duty has little tax significance. Regardless of a taxpayer's method of accounting, the Code allows no tax deduction until the year the cleanup occurs. In general, this result is reasonable, because it offers no tax incentive for destructive behavior, and it creates a tax benefit for engaging in an actual cleanup. It does nothing, however, to stimulate the taxpayer to set aside funds to cover the eventual liabilities its actions will generate.

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[155] The deduction would be available under § 162(a). Section 263 might force capitalization if the correction made the property suitable for a new use vis-a-vis its status when acquired by the taxpayer. *Compare* Midland Empire Packing Co. v. Commissioner, 14 Tax Ct. Rep. (CCH) 635 (1950) *with* Mt. Morris Drive-In Theater Co. v. Commissioner, 238 F.2d 85 (6th Cir. 1956).

[156] I.R.C. § 163 (1986).

[157] *Id.* § 263.

[158] *Id.* § 162(f).

3. The Special Case of Nuclear Decommissioning Costs

One of the rare exceptions to the general rule against deductions for adding to reserves for future expenses appears in section 468A.[159] This provision permits taxpayers to deduct actual payments made to reserve funds to pay for future costs of decommissioning nuclear power plants. Section 468A(b) limits such payments to the lesser of decommissioning deductions claimed for ratemaking purposes or a "ruling amount" individually approved by the IRS as an accurate reflection of future expenses.[160] The earnings of each nuclear decommissioning fund are taxable at top corporate rates as if the fund were a domestic business corporation.[161] The fund is carefully circumscribed so as to be usable for no other purpose and to assure that it terminates when its purpose is achieved.[162]

From a tax accounting perspective, section 468A is an enlightened provision because it matches income and expenditures over time, while limiting the deduction to actual payments into the fund. Moreover, it seems compatible with environmental goals because it encourages adequate funding for the potentially enormous costs of shutting down obsolescent nuclear power plants, a result that is preferable to the risk that the public might have to bear the eventual cost. If it has any weakness, it may be that section 468A needs to be tightened somewhat to make the fund immune from invasion by the taxpayer or its creditors. Its enlightened tax treatment for accumulating capitol for cleanup makes section 468A a good model for funding liabilities for future disbursements to rectify unavoidable environmental damage from accepted, legitimate business activities generating and disposing hazardous wastes.

4. The Special Case of Solid Waste Reclamation Costs

Section 468 is a complex section relating to mine closing and solid waste reclamation. The provision relating to mines parallels that for solid waste reclamation. The core concept of these section 468 provisions is to grant taxpayers a current deduction for the costs of reclaiming waste sites and closing mines.[163] The amount of the deduction is calculated by a sinking fund approach, the effect of which

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[159] *Id.* § 468A; *see also* Treas. Reg. § 1.468A-0 to -8 (1988).

[160] *See* I.R.C. § 468A(d)(2) (1986) for the definition of the term "ruling amount."

[161] *Id.* § 468A(e).

[162] *Id.*

[163] H.R. CONF. REP. No. 861, 98th Cong., 2d Sess. 875 (1984) (referring to new I.R.C. § 468).

is to grant relatively smaller tax deductions in the early years to accommodate growth of the reserve funds that resulted from the taxpayer's contributions to the fund over the years.[164]

No actual payment into the reserve is needed in order to claim the deduction. The deduction is permissible, however, only if the reclamation involves a property reclaimed under a permit issued pursuant to the Solid Waste Disposal Act as amended by RCRA,[165] or similar federal, state, or local laws. The Code excludes any waste site that a taxpayer disturbs after it is listed on the National Priorities List (NPL) under section 105 of CERCLA.[166] This exclusion has the effect of barring a current deduction for response or remediation costs required under the Superfund program for NPL sites, and thus might encourage private site cleanup to preempt listing of the site on the NPL.

Mine closing activities must be conducted in accordance with a reclamation plan submitted pursuant to sections 511 or 528 of the Surface Mining Control and Reclamation Act of 1977[167] and made part of a surfacing mining and reclamation permit granted under Title V of that Act. Alternatively, the closing may be conducted pursuant to a plan submitted under a substantially similar state or federal law containing permit requirements.[168] The Code delegates the power to control the nature of the reclamation or closing activity to those closest to the scene, but local control can result in a lack of uniformity among the states.

In the worst case, a well-intentioned mining operation that accumulated cash reserves for eventual closing costs would get no current deduction because it failed to qualify under a rigorous regimen. In contrast, a taxpayer that did not intend to comply with actual closing requirements would get a current deduction for an act it never performed because it formally complied with a relaxed state standard. Eventual nonperformance would be punished by reporting the reserve as gross income in the year of nonperformance, but the tax cost of doing so might be minor because the burden arises so far in the future. A requirement that the reserve be funded and escrowed

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[164] For a general explanation of the sinking-fund concept, see M. CHIRELSTEIN, FEDERAL INCOME TAXATION, A LAW STUDENT'S GUIDE TO THE LEADING CASES AND CONCEPTS ¶ 6.08 (1988).

[165] Codified as amended at 42 U.S.C. §§ 6901–6987 (1982 & Supp. IV 1986) (latest codification after 1984 amendments). *See also* I.R.C. § 468(d)(2)(B) (1986).

[166] 42 U.S.C. § 9605 (1986); I.R.C. § 468(d)(2)(B)(ii) (1986).

[167] 30 U.S.C.A. §§ 1201–1328 (1986).

[168] I.R.C. § 468(d)(2)(A)(ii).

would solve this problem by matching cost contributions to the escrow account with the permissible deductions.

The mine closing and solid waste reclamation deduction is a sophisticated form of reserve accounting, but it fails to require actual contributions to fund the reserve. As such, it suffers a serious weakness, given the possibility that the taxpayer may be defunct by the time the duty to pay actually arises. It is good tax accounting but arguably offends public policy.

5. Corporate Tax Provisions Relating to Undercapitalized Subsidiaries

A major practical problem involved in abstractions about allocating the burden of liabilities associated with toxic wastes is the waste producer's ability to pay. State corporate laws are notorious for allowing minimal capitalization of corporations. The only firm corporate law limitations involve prohibitions on paying dividends that would render the payor corporation insolvent.[169]

Rational business corporations engaged in environmentally risky activities will, all things being equal, isolate those activities in separate subsidiary corporations. As a matter of general law, courts will not impute to the parent the corporate liability of a subsidiary. Nevertheless, a subsidiary is considered an asset of the parent that can be reached by a judgment creditor of that parent corporation. Locating risky activity in the parent makes the subsidiary an asset that can be reached by judgment creditors. Rational businesses will avoid such a structure, and locate the activity in a subsidiary.

The Code does nothing to discourage formation and reshuffling of subsidiaries to minimize environmental liabilities. Section 351 permits tax-deferred contributions of appreciated property to controlled corporations.[170] These contributions may include property whose value has declined and been depreciated to an amount lower than its value. The Treasury maintains, on doubtful authority, that a tax-free incorporation of such an asset requires a business purpose:[171] this requirement hardly presents an obstacle, however, because "business purposes" include isolation of hazardous activities in separate corporations.[172]

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[169] H. HENN & J. ALEXANDER, LAWS OF CORPORATIONS 890–95 (1983).

[170] *See generally* B. BITTKER & J. EUSTICE, FEDERAL INCOME TAXATION OF CORPORATIONS AND SHAREHOLDERS ch. 3 (5th ed. 1987).

[171] Rev. Rul. 70-140, 1970-1 C.B. 73.

[172] B. BITTKER & J. EUSTICE, FEDERAL INCOME TAXATION OF CORPORATIONS AND SHAREHOLDERS ¶ 13.09 (1979).

The Code also facilitates shearing away subsidiaries or breaking up separate lines of business into separate corporations for distribution to shareholders.[173] On general tax principles, such transactions are taxable as distributions or as gain (or loss) producing dispositions of stock.[174] Section 355, however, permits nontaxable corporate division if it is not a "device" to distribute earnings of either corporation, the resulting corporations are engaged in active businesses that were conducted for five years before the distribution, *and* control of the spun-off company comes to rest in the hands of shareholders.[175]

The interpretation given to the "device" provision[176] is especially troublesome for toxic waste policy. Insulating the parent company from potential liabilities has been explicitly approved as a valid business purpose, not a mere "device,"[177] that justifies spinning off or otherwise separating the corporate operations.[178]

The tax laws facilitate shell games using corporate subsidiaries to minimize liabilities arising in connection with hazardous wastes. Given the great difficulties of working out proper regulatory models for dealing with toxic waste management, the Code should not complicate environmental policy by facilitating tax-free reshuffling of business enterprises in order to evade their potential liabilities. A reasonable reform would be to limit tax-free incorporation to those restructurings that do not entail escape from environmental liabilities, and to restrict section 355 in a similar manner. Such tax reforms would not be necessary, it should be noted, if the state corporate law liability system were broad enough to make the "shell game" defense ineffective.

6. Tax Treatment of Liability Insurance

The tax treatment of purchased liability insurance is well settled. As long as the coverage has a business purpose, it is deductible (if at all) under section 162 to the extent that it covers liabilities in the current year.[179] With similar effect, section 461(b) prevents deduction in the case of an accrual method taxpayer until the year for

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[173] I.R.C. § 355 (1986).

[174] *Id.* §§ 301, 1001.

[175] The provisions of § 355 are rather intricate; the statement in the text is highly simplified.

[176] *See* B. BITTKER & J. EUSTICE, *supra* note 172, ¶ 13.06.

[177] *See, e.g.*, Rev. Rul. 76-187, 1976-1 C.B. 97; Rev. Rul. 76-527, 1976-2 C.B. 103.

[178] *See, e.g.*, Rev. Rul. 59-197, 1959-2 C.B. 77.

[179] *See, e.g.*, Commissioner v. Boylston Mkt. Ass'n, 131 F.2d 966 (1st Cir. 1942). *See also* I.R.C. § 461(g) (1986) (cash method taxpayer).

which the coverage was purchased.[180] By contrast, a deduction for self-insurance is impermissible on the theory that no risk transfer took place.[181]

Captive insurance stands in the middle ground between commercial insurance and self-insurance. The tax law surrounding captive insurance companies is quite well developed, but the concepts are somewhat complex. For purposes of the overview in this Article, however, a few general statements can safely be made.

To have insurance for tax purposes—and hence a potential business expense deduction for the cost of insurance premiums—both risk transfer and risk distribution must occur.[182] Thus, if an insurance company is wholly owned by another company, and the insurer insures only the parent's risk, no tax deduction can be taken for the premiums paid by the parent.[183] Moreover, a business may not deduct alleged premiums that it disguises as reserves, which would otherwise be nondeductible.[184] Insurance premiums against fire, storm, theft, accident, or other similar losses in the case of a business are deductible,[185] but identical payments set aside in a reserve fund established by a taxpayer are nondeductible on the theory that all the events that fix the fact of the liability have not taken place.[186] The tax implications of a conclusion that a transaction produces insurance rather than a reserve can be dramatic. The distinction may seem anomalous if one views the two payments as identical in amount and purpose. A closer look at the principles of risk transfer and risk distribution may clarify the policy behind the distinction.

a. Risk Transfer

The concept of risk transfer is that another person, and not the insured, must replace the insured as the bearer of the risk. This principle renders an alleged transfer of one's own risk to one's sub-

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[180] I.R.C. § 461(b) (1986).

[181] *See, e.g.*, Carnation Co. v. Commissioner, 640 F.2d 1010 (9th Cir. 1981). The essence of insurance is to transfer the financial risk of the covered event from the purchaser of the insurance to the seller of the insurance. Because self-insurance does not shift the risk to another corporation, from a tax policy point of view the self-insuring taxpayer has merely engaged in reserve accounting.

[182] Carnation Co. v. Commissioners, 71 Tax Ct. Rep. (CCH) 400 (1978), *aff'd*, 640 F.2d 1010 (9th Cir. 1981). The rationale is that without both operational results the practical effect is merely self-insurance.

[183] *See* Gulf Oil Corp. v. Commissioner, 89 Tax Ct. Rep. (CCH) 1010 (1987).

[184] *Id.*; Treas. Reg. § 1.162-1(a) (as amended in 1988).

[185] *See, e.g.*, Commissioner v. Boylston Mkt. Ass'n, 131 F.2d 966 (1st Cir. 1942).

[186] *See generally* Brown v. Helvering, 291 U.S. 193 (1934).

sidiary defective; the risk remains with the real party in interest. The IRS asserts that there is no risk transfer, and hence, no deduction, when a subsidiary company insures its parent company's risk.[187] The Tax Court explicitly supports this view in the case of a wholly owned subsidiary that insures only its parent company's risk, and not the risk of unrelated companies.[188] But the Tax Court also suggests that there may be risk transfer where at least fifty percent of the subsidiary company's premiums are received from unrelated companies.[189]

b. Risk Distribution

The risk distribution effect of insurance operates through the diversification of risks. When the law of numbers applies, unusually favorable and unusually harmful experiences tend to balance each other. In theory, unless the pool contains a sufficient diversity of risks, the law of numbers cannot apply.

The Tax Court asserts that all of the risks can be of a related corporation.[190] It has not said how many risks are enough or how one tells whether the law of numbers is operating; apparently the court would be satisfied by the application of insurance industry standards, whatever they may be.[191] For example, the Tax Court in *Gulf Oil Corp. v. Commissioner* relied heavily on the tax and nontax literature of the insurance industry for conceptual guidance and gave every indication that it would accept prevailing industry standards to solve the riddles of when there is enough diversification.[192] The court distinguished insurance from the establishment of reserves, indicating that additions to such reserves would be nondeductible.[193]

Another logical requirement for deduction is that the insurance company has to be reasonably able to pay if a casualty occurs.[194] If the "insurer" is unable to pay, in substance no insurance exists. This result relates to the principle of risk distribution, for only through

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[187] Rev. Rul. 77-316, 1977-2 C.B. 53. The parent and subsidiary companies are considered to be members of the same economic family. *Id.* at 53–56.

[188] Clougherty Packing Co. v. Commissioner, 84 Tax Ct. Rep. (CCH) 948 (1985), *aff'd*, 811 F.2d 1297 (9th Cir. 1987).

[189] *Gulf Oil*, 89 Tax Ct. Rep. (CCH) at 1027 n.14. (relying on Rev. Rul. 80-120, 1980-1 C.B. 41). The one-half figure is an arbitrary, Solomonic threshold.

[190] *Id.* at 1026.

[191] *See id.* at 1022–27.

[192] *See id.* at 1025–27 & nn.9–15.

[193] *See id.* at 1023–24, 1030.

[194] *See* O'Brien & Tung, *Captive Off-Shore Insurance Corporations*, 31 ANN. N.Y.U. TAX INST. 665, 684–85 (1973).

a pooling of premiums for diverse risks can the insuring entity acquire sufficient capital to cover a major loss.

The situation in which there is virtual certainty that the risk will eventually materialize presents a teasing problem in the insurance area. In such cases, one would assume that a portion of the premiums is equivalent to a reserve for future expenses and should not be deductible. The insurance experts evidently think in terms of uncertain risks,[195] as opposed to certainties. One can insure, for example, the risk of a nuclear power plant being struck by lightning, as opposed to the plant gradually becoming radioactively "hot." One wonders if there might be borderline cases where some premiums that are really in the nature of reserves against sure things might be deductible as payments to cover uncertainties, for example, a policy that covered a nuclear power plant *prematurely* becoming "hot."[196]

Commercial coverage may become unavailable just when taxpayers need it most. In recent years, for example, virtually no commercial insurance has been available for environmental liabilities associated with industrial activity.[197] If self-insurance and reserve accounting do not afford tax deductions for coverage of environmental risks, the economics of the particular situation may drive the taxpayer to risk all by "going bare"—not funding the risk. The risk may be attractive if a modestly capitalized subsidiary is used, thereby potentially minimizing the real economic risk to the taxpayer. This highly undesirable outcome is exacerbated by state corporate laws that enable shareholders to avoid personal liability for corporate acts and to drain the corporation of operating profits, leaving a "suit-proof" malfeasor.

The potential of uninsured risks poses difficult policy choices. One alternative is to proscribe or sharply limit the activity that produces the risk. Another is to facilitate self-insurance by setting clear federal standards in the form of "safe harbor" rules, which, if satisfied, can assure the taxpayer that a deduction will be available. Opponents of such a scheme can be expected to argue that, if industry members are not willing to engage in risk-pooling on their own, the activity should not be subsidized. That argument fails, however, to take

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[195] *See* A. WILLETT, THE ECONOMIC THEORY OF RISK AND INSURANCE 72 (1951).

[196] There seem to be no litigated cases on point and the window of opportunity for crafty taxpayers seems narrow.

[197] UNITED STATES GENERAL ACCOUNTING OFFICE, HAZARDOUS WASTE: ISSUES SURROUNDING INSURANCE AVAILABILITY 17–27 (1987).

account of the overall economic and social utility of the industry.[198] It also overlooks the possibility of blending a variety of risks under one insurance premium, a step that is sometimes taken in the name of social policy even though it contradicts sound actuarial principles and full internalization of costs. Determining which economic activities to "subsidize" is, to be sure, a perplexing question as a matter of both theory and political choice. Its very perplexity suggests the desirability of reform through a specially tailored federal statute that balances the competing policies.

Another approach would be to provide federal insurance against disasters involving toxic wastes, and to allow a tax deduction for contributions to purchase such insurance. The appeal of such an approach would be broad risk-pooling, with a greater likelihood of appropriate risk-shifting because the large number of participants should even out the actual types of liabilities that come home to roost as disasters.

In this difficult and speculative field, two certainties stand out: (1) private insurance is frequently unavailable; and (2) barring scientific miracles, taxpayers will continue to conduct activities that will generate hazardous wastes and their attendant liabilities that our environmental, tort, and corporate laws cannot prevent. Providing federal insurance bends to those realities. The benefit is that the government as insurer can insist on appropriate minimum standards of conduct that should operate as a healthy control on irresponsible actors. In fact, if insurance is made a condition of permission to do business, and government insurance is available only upon compliance with environmental regulations, polluters that fail to abide by the rules and thereby lose insurance coverage would be forced to shut down.[199]

The Code's application to environmental liability insurance is traditional. Section 162 deductions might be denied on indirect public

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[198] For example, the nuclear weapons industry would probably adopt a more responsible attitude about health and environmental protection if government removed the shield of sovereign immunity. Without soverign immunity, private nuclear weapons contractors would need to cover new financial liabilities, but they would face the same obstacles to commercial insurance or risk pooling that their compatriots in the civilian nuclear energy industry faced and perhaps greater ones.

[199] The Resource Conservation and Recovery Act, for example, requires insurance coverage as a condition for receiving a permit to operate a hazardous waste treatment, storage, or disposal facility. 42 U.S.C. § 6924(a), (t) (1986). The collapse of the commercial insurance market prevented some facilities from continuing to operate, leading in turn to a highly concentrated, essentially oligarchical, waste management industry. A government-run insurance fund might have alleviated these problems and fostered a more competitive industrial structure, without any diminution in the efforts to protect the environment.

policy grounds as "extraordinary,"[200] but that result is unlikely. Where insurance is unavailable, it may be wise to modify the Code to facilitate industry-wide risk-pooling mechanisms that would produce deductions for actuarially reasonable contributions to the pool. The fund might operate on a tax-deferred or currently taxable basis. Federal insurance could be provided selectively where the private market is unable to meet the demand for insurance from accepted, legitimate businesses. Premiums that paid for such insurance should be currently deductible.

IV. Conclusion

The discord between generally accepted environmental values and statutorily prescribed environmental policies on the one hand, and the Code on the other, is remarkable. Major rethinking of the relationship between the two is definitely in order.

Formal institutional intervention to bring environmental policy objectives to the attention of the tax code writers is the first necessary step. Tax legislative process should include an advisory service whose role is to consider the environmental impact of future tax legislation. A good place to put the watchdog would be in the Joint Committee on Taxation. Candidates for the role of advisor include designated groups within the Office of Technology Assessment, or perhaps the Congressional Research Service. Tax legislation originating in the Treasury Department should be reviewed by the President's Council on Environmental Quality before submission to Congress. For major proposals, a NEPA environmental impact statement should be prepared.

In addition to making changes in the legislative process, Congress should amend several portions of the Code. In particular, no tax deduction should be allowed for business expenses that conflict with significant environmental policies. An amendment to section 162 of the Code to deny deductions for such expenditures could accomplish general conformity. The exact language of the amendment would have to be carefully worded to avoid *de minimis* cases and to keep pace with scientific and legislative developments.

As part of the effort to resolve inconsistencies between the Code and environmental policies, Congress should also repeal percentage depletion for extracting asbestos and cut back or repeal the allowances for extracting lead, mercury, uranium, and sulphur. In a better

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[200] *See* text accompanying *supra* note 51.

world, Congress would limit aggregate percentage depletion in all cases to the taxpayer's investment in the mineral property.

In addition to correcting negative tax consequences for the environment, Congress should enact positive measures to induce safe and clean industrial procedures. Accordingly, while retaining the basic structure of section 169, Code revisions should enhance the incentives for installing new pollution control facilities.

Finally, the IRS, in conjunction with Congress, should reconsider its approach to the reserve method of accruing liabilities for future pollution control activities. In general, the nuclear decommissioning rules provide an appropriate model in which current deductions are allowed for current cash contributions to a dedicated fund. The funds, however, should be placed beyond the reach of creditors. A federal deposit system would be one good way to assure that the funds are not deflected from their intended use.

The intimate connection between tax and corporation laws compels a reevaluation of current laws on incorporation and corporate structure, as well as of the Code. Above all, the corporate laws relating to undercapitalized high liability subsidiaries should be modified. It should not be possible for a prosperous parent corporation to place its environmentally risky activities in a weakly capitalized subsidiary. Tax considerations are a minor factor here; this problem should be addressed head on with nontax legislation.

Ultimately, as with most broad-scale social and economic activities, insurance against unexpected and unintended environmental consequences plays a significant role. For activities with high environmental risk, pooled liability insurance arrangements should be encouraged. The real problems are not the tax law's restriction on the definition of deductible insurance payments, but the absence of reserve accounting and the collapse of the commercial market to insure against environmental hazards. In preference to a proliferation of uninsured risks, a federal insurance program should be created to provide coverage against such liabilities. In addition, self-insurance through establishing properly protected cash reserves can promote environmental protection and cleanup without disrupting accepted notions of insurable risks.

This brief and selective overview of tax code implications for private actions to protect and improve the environment reveals a wealth of contradictions and disincentives. Although special taxes and fees can sometimes be used to promote very specific pollution control objectives, general tax policy cannot carry the burden of environmental policy. The endeavor of this Article has been to illu-

minate some instances in which tax policy, usually inadvertently, works against important environmental policies that the United States is spending billions to accomplish. In the process, this Article has also uncovered some constructive elements in the Code that appear to facilitate sound industrial practices. What emerges most clearly from both the negative and the positive findings is the clear need to integrate environmental policy with the design and revision of the tax code. No federal law has the pervasive reach and the direct bottom-line impact of the tax code. As a result, it should be applied consciously and coherently to encourage and facilitate sound environmental practices in all areas of American business.

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